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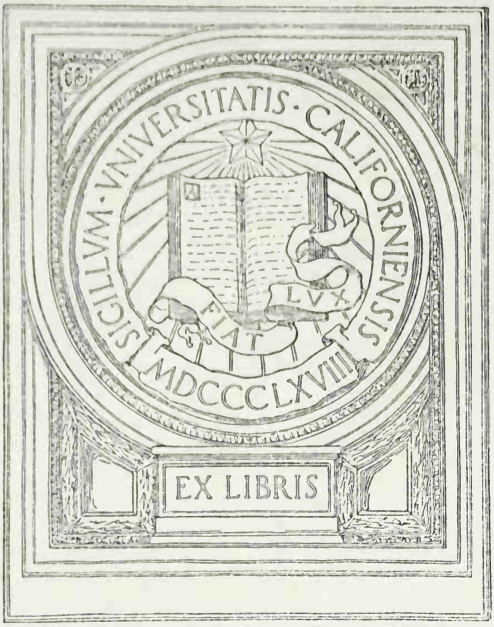

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PSYCHE

A Concise and Easily Comprehensible Treatise
on the Elements of Psychiatry
and Psychology

for Students of Medicine and Law

BY
DR. MAX TALMEY

NEW YORK, 1910
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PREFACE

No branch of medical science surpasses psychiatry in importance. For mental disease is increasing in frequency; it renders its victims dangerous to the community; it cuts short the lives of some patients and permanently disables many; and, lastly, owing to its hereditary tendencies, it contributes largely to race degeneration. Yet the study of psychiatry has been greatly neglected, chiefly due to the preposterous views, based upon superstition, which prevailed in former times. Until recently instruction in psychiatry was seldom given in medical schools. To-day lectures in diseases of the mind are held in the best medical colleges, but no final examination in psychiatry is required from the matriculates. It follows, therefore, quite naturally that they pay little attention to the subject. As a consequence the average general practitioner is barely acquainted with the rudiments of psychiatry.

The family physician should be able to observe the earliest and salient symptoms of a case of insanity, know their import and immediate dangers, and be in a position to give a fairly thorough history to the consulting alienist. But psychiatrists will tell you that such a family physician is rarely met with, and that they are considerably handicapped by this lack of information. This ignorance was the writer's incentive in compiling the present treatise. He has endeavored to present the complicated subject of

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psychiatry in a manner sufficiently plain to be comprehended with ease by those who need enlightenment in such matters, but find it too laborious to wade through more extensive text books. The writer hopes that he has elucidated the intricate subject simply and concisely, and has brought it within the horizon of the general reader, and this will be his vindication. He further hopes that with the foundation obtained the general practitioner of medicine will be able to observe properly and diagnose a case of insanity, to determine the prognosis, and to treat the patient until the time when he has to be given into the care of the more experienced specialist. Likewise the book will be of value to the legal profession which frequently has to deal with cases complicated by psychiatrical problems. The perusal of this simple treatise will impart to an attorney an adequate knowledge of mental disease and thus enable him to handle many a medico-legal subject advantageously.

THE AUTHOR.

New York, July, 1910.

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INTRODUCTORY REMARK

The definition of *psyche* or *mind* as the capacity of living organisms for certain manifestations, such as perceiving, feeling, remembering, thinking, willing, etc., is not exhaustive, but sufficient for the purpose of conveying to the student a clear conception of the elements of psychology and psychiatry. Anything relating to the psyche or mind is designated with the attribute *psychical* or *mental*. The bodily organ which forms the basis of the mind is the brain. All the processes of the body, the vegetative as well as the psychical functions, depend on the brain. The treatment of the vegetative functions appertains to neurology and neuropathology. *Psychiatry* deals with the morbid changes of the psychical functions of the brain, while the normal psychical phenomena form the subject of *psychology*. A clear knowledge of the former cannot be obtained without a preceding study of the latter. The following concise description of the elements of psychology will facilitate the proper understanding of the subsequent exposition of the elements of psychiatry.

PART I.

PSYCHOLOGY OR PHYSIOLOGY OF THE MENTAL FUNCTIONS

Chapter I.

IRRITABILITY OF THE BRAIN.

The brain cortex possesses the quality of *irritability*, i. e., the tendency and capability of reacting to external stimuli. The irritability may be lowered to a minimum, and yet no morbid change may be present. As a rule the irritablity varies. In the course of the day it first increases, then it decreases and recedes sometimes to a very low level, due to the exertions during the day. Restitution to the normal takes place during sleep.

Far greater than by work is the influence exerted on the cerebral irritability by the blood circulation. If both carotid arteries are compressed (p. 67), the cerebral metabolism becomes greatly diminished, although the brain still receives blood through the vertebral arteries. The result of this reduction of the blood supply is that the individual becomes quickly unconscious, i. e., he is unaware of what is going on around him; after awaking he has no knowledge of what has transpired. Such diminution of the irritability can be produced only artificially, but does not occur under ordinary circumstances.

How does it occur that the irritability is periodic, decreasing in the day to be restored during sleep? The brain behaves like a muscle which becomes fatigued through work. During work the metabolism is increased and waste products are generated in great excesses. These metabolic products, therefore, cannot be carried off notwithstanding the enhanced circulation during work. The accumulation of the products of fatigue lowers the irri-

tability of the brain. Hence in the course of the day we become less and less susceptible to external stimuli. During normal, healthy sleep the brain accomplishes very little work, the generation of new products of metabolism is greatly diminished, and those accumulated before can be carried off. The processes of repair being in excess, the irritability reappears.

Sleep is, therefore, not a special function, as was formerly assumed, but merely a certain state of the brain. This can also be proved from psychical pathology. Many a patient, after having gone through a psychosis, lacks the ability for certain mental functions, the psychopathological process having destroyed the cerebral mechanisms by which these functions are exercised. Permanent insomnia, however, is never met with in a patient after the cessation of the acute psychopathic manifestations. Now, if sleep were a function of the brain, the cerebral mechanism for exercising this function would, in some cases of mental disease, be destroyed and permanent sleeplessness result.

Chapter II.

SENSATIONS AND SENSE IMPRESSIONS.

The paths by which the brain, although excluded from the external world by the solid cranial capsule, is accessible to external influences are the blood and lymph circulation, the senses, and the muscles via the nerves.

Effects of the circulation on the brain are observed after hypodermic injections and after medication through the alimentary and respiratory tracts. When morphine is administered subcutaneously, cerebral symptoms are

soon noticed; the morphine is conveyed by the blood to the brain and exerts its influence on it. Alcoholic drinks cause hilarity; alcohol enters the blood and is carried to the brain. A protracted stay in a room filled with carbondioxide gas produces a state of stupefaction.

The most perfect way by which external influences reach the brain are the senses, sight, hearing, touch, taste, and smell. The eye reacts to light, i. e., to vibrations of the ether. These produce a change in the retina, on which a picture is formed. The change in the retina is conducted to the brain through the optic nerve. When we *"see,"* this means merely that our brain cortex, i. e., the cortex of the occipital lobe, has been altered in a certain manner by ether vibrations emanating from a luminous object. A certain number of vibrations of the air per second change the organ of Corti. The change is conveyed through the acoustic nerve to the cortex of the temporal lobe. When this part of the brain undergoes the consequent alteration, we say, we *"hear,"* or we have a *sensation of hearing.* The same is the case with the senses of touch, taste, and smell, and the numerous sensations effected through the skin, for instance, by heat, cold, etc. The sensations leave in the brain certain permanent changes called *sense impressions* or *sensory images.* There are accordingly visual, acoustic, tactile, gustatory, and olfactory sense impressions or sensory images.

Finally, the brain is influenced by the muscles. The new-born child cannot grasp an object, it cannot make voluntary muscular movements. The movements of its muscles are at first purely automatic. But just as the stimulation of a sense organ produces a *sensation,* so also does any muscular movement give rise to a *motor sensation.* Such sensations leave in the brain certain

permanent changes, called *motor impressions* or *motor images*. Through the frequent reflex movements motor impressions are stored up in the brain. Only after the accumulation of sufficient motor images the child learns to grasp objects voluntarily.

The nature of the cerebral elements in which the impressions are stored up is not known. Because of their number the medullated nerve fibres are more readily adapted to receive the irritations of the brain during a whole lifetime than the cells. W. His calls the cerebral fibres which supposedly receive the stimulations of the brain *"sensation fibres"* (*"Empfindungsfasern"*). F. H. v. Grashey agrees with His. Others do not assume sensory fibres, but only *"sensation cells"* (*"Empfindungszellen"*). But no matter which of these elements receive the stimuli, a *sensation* ensues when they are excited. A permanent change remains in the sensory element. It is called *impression,* and may be regarded as the result of the work done by the process of stimulation. (Chapter 8, p. 19.)

Chapter III.

ASSOCIATION AND MEMORY.

The various sensations are localized in definite areas of the brain; for instance, the cortex of the occipital lobe serves for the visual sensations. These areas, however, are neither isolated nor disconnected.

The sensory elements, fibres or cells, of any one sense are connected with each other. The connecting fibres are called *association fibres* (Fig. 1, a). In this way sensations may be associated.

By another set of association fibres the sensory elements of one sense communicate with those of the other senses (Fig. 2, a_1). A visual sensation may thus be effected through auditory stimuli. When we hear the name of an object known to us, we have its image before us.

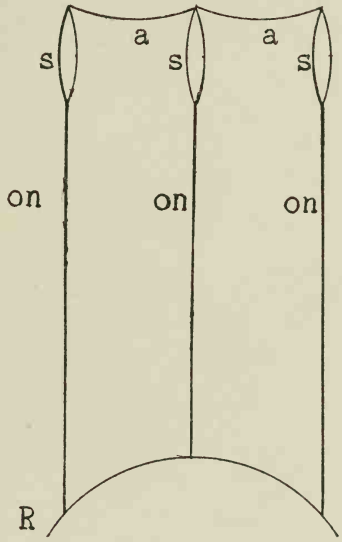

Fig. 1.

The sensory elements, s, of a sense are connected by association fibres, a. Visual sensations received from the retina, R, by way of the optic nerve, on, may be associated by means of the association fibres, a.

A sensation not obtained directly from the periphery, i. e., the senses, the muscles, or some other organ, but by way of association fibres in the brain, is called a *memory image* or an *idea*. Memory depends on association, as a simple example will explain. A dog seeing a whip for the first time, pays no attention to it. If a blow be dealt the dog with the whip, he receives a sensation

of pain which is associated with the image of the whip, and he runs away. Thereafter when the dog merely sees the whip, he runs away just as he did when he first received the blow.

Three factors are requisite for the accomplishment

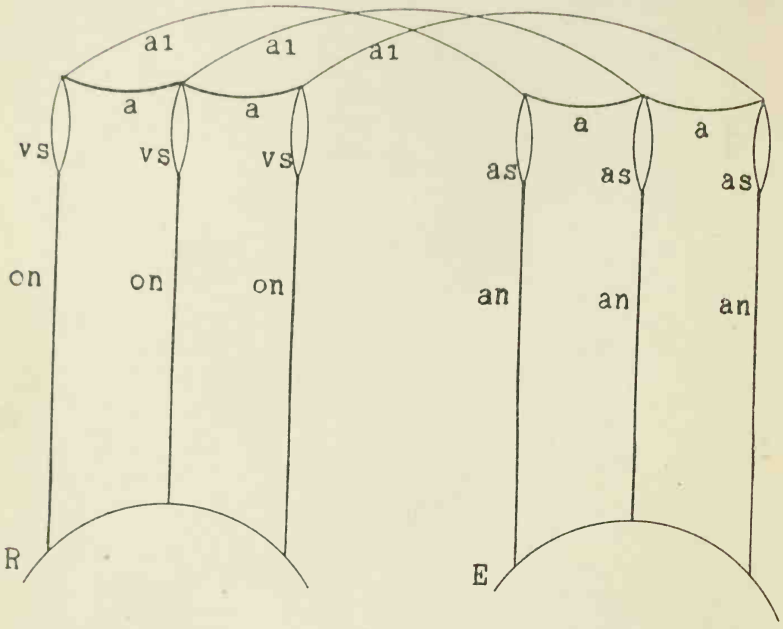

Fig. 2.

When the auditory organ, E, is stimulated, a visual sensation may be effected. The irritation travels from the ear, E, through the acoustic nerve, an, to the auditory center, as, thence through association fibres, a_1, to the visual center, vs.

of an idea. Firstly, sensations must have taken place; secondly, the sensations must be associated with one another; thirdly, impressions of the sensations must have been retained in the brain. Only then ideas can arise.

Bearing in mind the foregoing explanation of sen-

sations, impressions, association, and ideas—memory images—we may define memory in the following way. *Memory is the capability of producing, or bringing into consciousness, ideas by way of association.* Pathologically ideas may be awakened in another way, namely by hallucinations—which will be explained later (p. 44). Such ideas are called hallucinatory ideas. They are not brought about by way of association. Hence they do not belong to the true province of memory.

Chapter IV.

PERCEPTION.

When the irritation brought about at the periphery by an external stimulus arrives in the brain cortex and produces a change in a cerebral element, a sensation takes place. Normally the individual, somehow or other, becomes aware of the change, and we say, he "sees," he "hears," etc. But it is conceivable that he may fail to become aware of the change. This is physiologically the case with the sensations of the earliest days of life, and occurs only pathologically, as a rule, in the adult. A person is mentally blind—"seelenblind"—or psychically deaf—"seelentaub"—if he does not become aware of the result of visual or auditory stimulation. Hence we may distinguish a sensation which one is aware of, and a sensation which one is not aware of. The latter is a *pure sensation,* the former a *pure perception.* Both are seldom realized in adult life.

In contradistinction to pure perception *ordinary perception of an object* is a complicated process in which association and reproduction—memory—are instru-

mental. The different points of the object furnish separate images. These are stored up in different cerebral elements which are connected by association fibres. When one partial image is presented to a sense, all the other partial images are called forth—reproduction—by way of association, and the individual perceives the composite image of the whole object. In all likelihood a composite image is not deposited in one cerebral element. When the child learns to see an object, it does not receive its whole image at once, but by separate perceptions it learns to compose the image of the object. The single perceptions are stored up in different cerebral elements as sense impressions which unite to form the complex image of the object whenever a partial image is awakened.

Three modes of perceiving may be distinguished. 1) *Simple perception* consists chiefly of actual, momentary sensations. 2) *Intuition* contains actual sensations and memory images. 3) *Phantasy* is composed mainly of memory images. A fourth mode of perceiving will be treated later (Chapter 21, p. 42).

Most of the perceptions of the adult are intuitions. A very young child receives only simple perceptions. As experience grows, actual sensations are combined with memory images. When a person enters his unilluminated room at night, he is fairly well aware of everything around him. The few actual sensations, which he receives even in darkness, are supplied by supervening memory images, and both impart to him a correct apprehension of his surroundings. The pupil who has just learned to read, needs a comparatively long time to grasp a long word, while one who is already experienced in reading sees the whole word at once, immediately after noticing

the first syllable, memory images furnishing useful aid at the moment of the actual visual sensation which the first syllable produces.

During the process of phantasy we abandon ourselves entirely to our thoughts after having withdrawn our senses from external influences. The memory images are combined, one image awakens another, often against our will. This play, this coming and going of the memory images, is called the *ideational process, the course of ideas, or the train of ideas.*

Chapter V.

FEELINGS, EMOTIONS, MOODS.

Simultaneously with every sensation arises a certain *feeling.* When a flash of light strikes the eye, the visual sensation obtained is agreeable or disagreeable; a certain sound has an exciting or soothing effect. The feelings accompanying the sensations are called *sense feelings* or *affective tones* of the sensations. They are best observed in children. The sight of some object, the hearing of some sound, produces in the child an agreeable or disagreeable feeling, and the child manifests its pleasure or displeasure in some obvious manner.

Not only the sensations, but also all other psychical processes are accompanied by feelings. Every idea, every volitional act, every operation of the understanding, gives rise to certain feelings which may be called the affective tones of these psychical processes.

A feeling is not a lasting psychical state, but a transitory, comparatively slow process, and its effect on the other psychical processes does not exceed medium

intensity. When however a continuous series of feelings is distinct from preceding and following psychical processes, thus representing a separate entity, and at the same time produces effects of greater intensity than a single feeling does, such a sum of feelings is called an *emotion*. (Wilhelm Wundt.)

Several simple feelings, arising simultaneously or shortly one after the other, produce a composite feeling of the first order. Composite feelings of a higher order result from composite feelings of the first order. The composite feelings differ from the emotions chiefly by the greater effects which the latter exert on the other psychical processes.

Composite feelings often pass into protracted states. Such states are called *moods* or *affective states*. The moods form the transition between feelings and emotions.

There is an infinite variety of feelings and emotions. The most conspicuous emotions are those of an agreeable or disagreeable nature, such as joy, pleasure, hope, surprise, sorrow, displeasure, disappointment, anxiety, fear, fright, anger, rage, etc.

The child manifests few affective tones. In the adult, however, the scale of affective tones and emotions, from the highest delight to the greatest fright, is almost infinite.

Chapter VI.

PHYSIOLOGIC-ANATOMIC EXPLANATION OF FEELINGS, EMOTIONS, MOODS.

The arising of affective tones may be explained by the following hypothesis. The sensory centers are connected with a certain

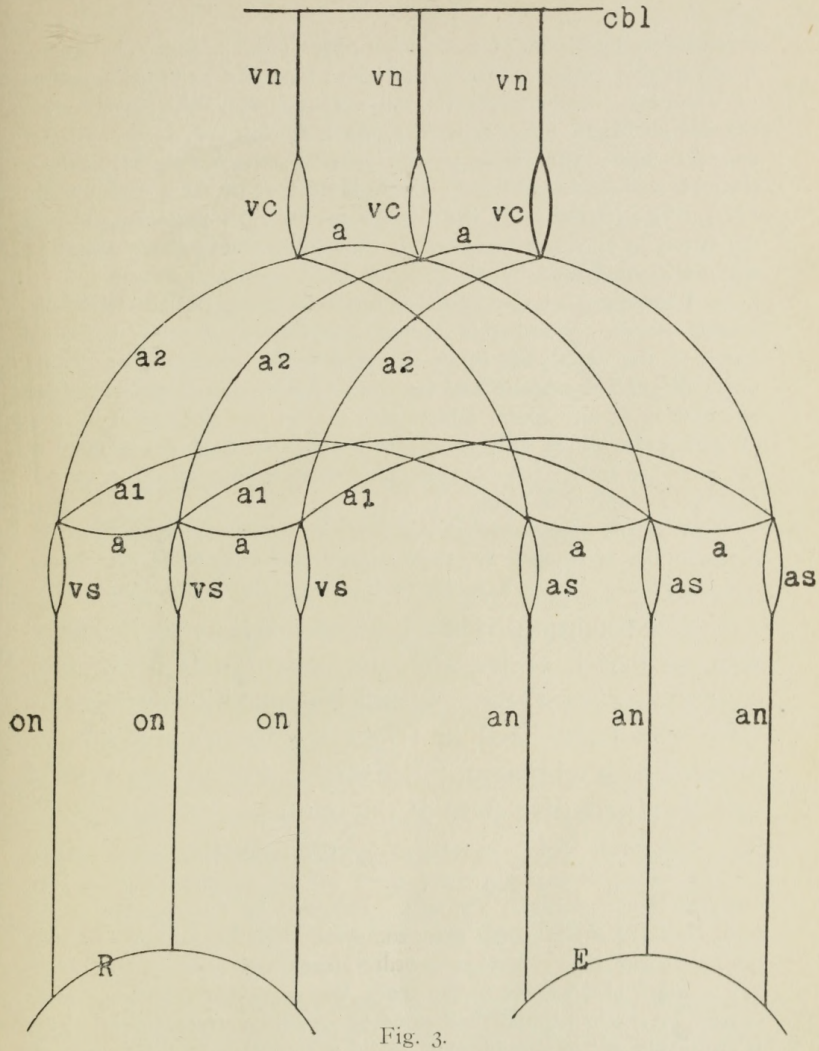

Fig. 3.

When the eye, R, or the ear, E, is stimulated, the irritation travels through the optic nerve, on, or the acoustic nerve, an, to the visual center, vs, or to the acoustic center, as, and a visual, or auditory sensation takes place. The irritation travels further through association fibres, a_2, to the vasomotor center, vc, thence through vasomotor nerves, vn, to the cerebral blood vessels, cbl, the affection of which changes the nutritive state of the brain, thus producing an affective tone.

other center by means of association fibres (Fig. 3, a_2). The stimulation of this center arouses an affective tone just as the stimulation of a sensory center gives rise to a sensation. When a stimulus reaches an organ (Fig. 3, R. E.), the irritation travels through an afferent nerve (on, an), to the sensory center (vs, as), thence through an association fibre (a_2) to the center of the affective tones (vc.). The irritation of the former results in a sensation, and of the latter, in an affective tone. It thus follows that every sensation will be accompanied by an affective tone.

The center of the affective tones is identical with the vasomotor center. When this center is irritated, the blood vessels contract, the resistance in the circulation is increased, less blood flows through the brain, and its state of nutrition is altered. The stimulation of any center affects also that of the circulation by way of association fibres (Fig. 3, a_2) and produces a sudden change in the nutritive state of the brain. This change gives rise to a certain feeling, an affective tone.

A simple experiment shows that the vasomotor center participates in the production of feelings and their combinations, moods and emotions. When a rabbit is frightened, its ear becomes pale.

The condition of the brain depends upon its nutrition, so that it varies when the nutrition is inadequate, sufficient, or excellent. Insufficient nutrition produces a state of anxiety, and in fright the brain's nutrition is lowered to a minimum. Pleasurable feelings correspond to a good nutritive state of the brain.

The brain being enveloped by the unyielding solid cranial capsule, some mechanism must exist for its adaptation to sudden changes in circulation. The space occupied by the receding blood must be filled out by some other material. The hypothesis has been advanced that liquor cerebro-spinalis vicariously replaces the blood. When more blood flows to the brain, the space for it is supposedly created by cerebro-spinal fluid receding into the vertebral canal. This is physically not impossible, but would not suffice to provide enough room for the inflowing arterial blood. Besides, the walls of the vertebral canal also offer great resistance to the afflux of the cerebro-spinal fluid. Another regulation, therefore, must exist to render the instantaneous change of the cerebral blood quantity possible. This regulation is furnished by the venous system, i. e., the venous sinuses and the veins emptying into them. The pressure in the

cerebral veins is slight. With each pulse beat which drives more arterial blood into the brain, venous blood is simultaneously pushed out of the veins into the sinuses and thence into the jugular veins. In this way room is created for the arterial blood. Conversely venous blood occupies the room when the afflx of arterial blood is diminished. It is even conceivable that with sufficient reduction of the pressure in the arteries a reflux into the brain of venous blood could take place.

The arterial blood supply is of vital importance to the brain as shown by the experiment consisting in the compression of the carotid arteries (p. 5). Death through hanging is caused by anaemia of the brain, and follows suddenly or at least very quickly. Any reduction of the blood supply lowers the faculties of the brain.

An affective tone arises through a sudden change in the nutrition of the brain, the vasomotor center being secondarily affected at any psychical process. An affective state or mood thus depends on the nutritive state of the brain. When the brain is in a state of good nutrition, a feeling of well-being, pleasure, joy, is present. When the brain's nutrition is impaired, a cerebral dyspnoea, so to say, ensues, causing displeasure, pain, depression, anxiety, fear, etc.

Feelings, moods, and emotions admit, therefore, of a physiologic-anatomic explanation. Anatomically they have their basis in the vasomotor center and in the association fibres by which it is connected with the other cerebral centers. Physiologically the feelings and their combinations are founded upon the transmission of every stimulation from the senses and other organs to the vasomotor center through the tracts described, and upon the influence which this center then exerts on the circulatory system.

Different affective states are equivalent to different states of cerebral nutrition. In the sane individual the affective state undergoes a change by the arising of a

new affective tone. He falls into a state of anxiety by experiencing a sensation through which the nutrition of the brain is impaired. In the individual of unsound mind, however, the feelings and their combinations vary also in another manner.

To explain the great variety of affective states, we must assume that the nutritive states of the brain are very manifold.

Two affective tones, occurring simultaneously or shortly one after the other, may neutralize one another. One misses a valuable thing. He looks for it everywhere in vain and begins to worry. But the worry disappears at once when further searching brings forth the lost valuable. We laugh at a joke, but when we are in a state of depression, the inclination to laugh is suppressed.

Chapter VII.

INFLUENCE OF THE AFFECTIVE STATE ON THE PSYCHICAL PROCESSES.

The affective state exerts a great influence on the psychical processes. In a cheerful mood our judgment is entirely different from that formed in a mood of depression. A merchant about to go into bankruptcy meets a friend. The latter passes by without greeting him. The merchant at once thinks that his friend despises him. It does not occur to him that his friend may not have seen him. If, however, the same merchant were in a joyous frame of mind, and a friend passing on the street paid no attention to him, he would say to himself, my friend is so distracted, so absorbed in his own thoughts that he does not even notice his best friends who cross his way. In a cheerful mental state we have

the inclination to see everything in a favorable light; everything appears gloomy to us when we are depressed.

A person suddenly frightened may for the moment be unable to speak. Speech becomes often inhibited by sudden depression. Memory and the ideational process are impeded by the disturbed state of cerebral nutrition. On the other hand, the stream of our thoughts flows easily when we are in an exalted frame of mind.

To no less a degree than the ideation, the volitional activity may be influenced by changes in the cerebral nutrition or in the affective state.

Chapter VIII.

PHYSIOLOGICAL EXPLANATION OF THE INFLUENCE OF THE AFFECTIVE STATE ON THE IDEATIONAL PROCESS.

The following hypothesis will explain the interrelation between mood and ideational process. The transmission of impulses through the nervous elements is facilitated or impeded according to the tension and resistance prevailing in them. The higher the tension, the more easily the resistance is overcome. The reduction of the cerebral nutrition in a state of depression (Ch. 6, pp. 14-15) causes a lowering of the tension. The resistance is, therefore, surmounted only with great difficulty. The sense impressions, i. e., the permanent changes in the sensory elements (pp. 6-8) brought about by the processes of stimulation, may be assumed to be changes of resistance in these elements. Violent, i. e., disagreeable, stimulations cause a great change and considerable lowering of resistance. Mild, i. e., agreeable, stimuli, on the other hand, produce little change and slight diminu-

tion of resistance. Hence the resistance remaining in cerebral elements which have undergone a disagreeable excitement is small, but in those having experienced an agreeable stimulation is still great. The ideational process depends upon stimulation of cerebral elements by way of association (pp. 8-11, 13), and not directly by actual sensations. Such stimulation, however, is weak and suffices to affect only elements with slight resistance, i. e., those which have been disagreeably influenced at a former occasion. But it cannot excite elements with great resistance, or those to which pleasurable impressions have once been imparted. It follows that in a state of depression or impaired cerebral nutrition with diminished nervous tension the memory images will be of an unpleasant character. For the weak stimulation by way of association can be effective only in cerebral elements of little resistance, which contain impressions of unpleasant experiences. When the affective state becomes exalted, the nutrition is improved and the tension is raised. Stimulation by way of association is then sufficient to affect elements with great resistance, which harbor pleasant impressions. The enhancement of the nervous tension helps to surmount great resistances. The memory images are, therefore, of a cheerful nature, for they arise in elements in which impressions of pleasant sensations are stored up.

Chapter IX.

ACTIVITY OF THE UNDERSTANDING.

The ability of the brain to perceive an object is not always the same. At some moments it is better fitted for certain perceptions than at others. The condition

of the brain in which an object is perceived in the most favorable manner, and which is associated with a peculiar affective tone, is called *attention.* Perception augmented by the advantageous influence of attention is called *apperception.*

Apperception forms that basis of the activities of *imagination* and *understanding.* The materials for these activities are sensations, simple ideas, and collective ideas. In both activities sensations and memory images are combined in various ways, and thus higher, more complicated perceptions are acquired. Collective ideas are dissolved into their component elements or into simpler psychical products. The activity of the understanding differs from the activity of the imagination in that the former searches and establishes comparisons and relations between the psychical elements and products. Comparisons and relations play an important part in the activity of the understanding, but are neglected in the activity of the imagination.

The process of associating ideas in a regular way with a certain end in view is called *reasoning.* The result or conclusion hereby arrived at is a *judgment.*

That form of the activity of the understanding which constructs, by combination, complicated psychical products out of sensations and memory images is called *synthesis* or *induction.* Dissolving psychical compounds into their components is called *analysis* or *deduction.*

Reason is the capability of forming abstract conceptions, of operating with them and conforming one's actions accordingly. The difference between reason and understanding, considered in a medical aspect, is only quantitative. Kant probably started from a medical point of view when in his definition of reason he said: "All

our knowledge commences with our senses, proceeds thence to understanding, and ends in reason."

Chapter X.

ACTIVITY OF THE WILL.

When a stimulus is applied directly to a muscle, the latter contracts and a movement ensues. Such a movement is a direct movement. If however a muscle contracts, when some other organ, for instance the skin, is irritated, such muscular contraction is called a *reflex movement.*

The process of a reflex movement is best illustrated by a simple diagram. If a portion of the skin (Fig. 4, ps) be irritated, the impulse is conveyed through the sensory nerve (sn) to the posterior horn of the spinal cord (ph). Thence it travels through an association fibre, which forms a part of the reflex arc (ra), to the anterior horn (ah) and then through the motor nerve (mn) to the muscle (M) and causes the same to contract with a consequent movement of the part. This is a pure reflex movement.

Reflex movements are independent of the will, taking place even when the brain has been severed from the body. When the skin of a frog just decapitated is pricked, the muscles of the irritated part contract. The movements of the new-born child are also reflex movements. The child sucks reflexly, moved to this action by some remote irritation. The movements of the child's extremities are reflex movements.

When an end-organ is stimulated, the impulse, after its entrance into the spinal cord, takes also another course besides the one described in the foregoing illustration. From the posterior horn (Fig. 5, ph) it travels through the sensory tracts (st) to the center of sensibility in the brain (sc) and leaves in the cerebral

cortex a permanent change, a sense impression (Ch. 2, p. 7). Likewise when a muscle contracts, an impulse is transmitted from the muscle (M) through an afferent fibre of the motor nerve (mn_1) to the anterior horn (ah), thence through the motor tract (mt_1) to the motor center in the brain, and leaves in the cortex a permanent alteration, a motor impression or motor image (p. 8). Frequent stimulation renders conduction along the motor paths more easy by reducing their resistances, and establishes motor images. These two conditions given, a slight irritation, e. g., a visual perception is sufficient to effect a movement. The visual impulse is transmitted from the retina (R) through the optic nerve (on) to the visual center (vs), thence through an association fibre (a_1) to the motor center (mc). Here the movement is initiated, the impulse traveling further through the motor tract (mt), anterior horn (ah), and the motor nerve (mn) to the muscle (M) which contracts.

The following example will more clearly illustrate the process. When a child's arm is pricked with a knife, the arm is withdrawn, the irritation being transmitted to the

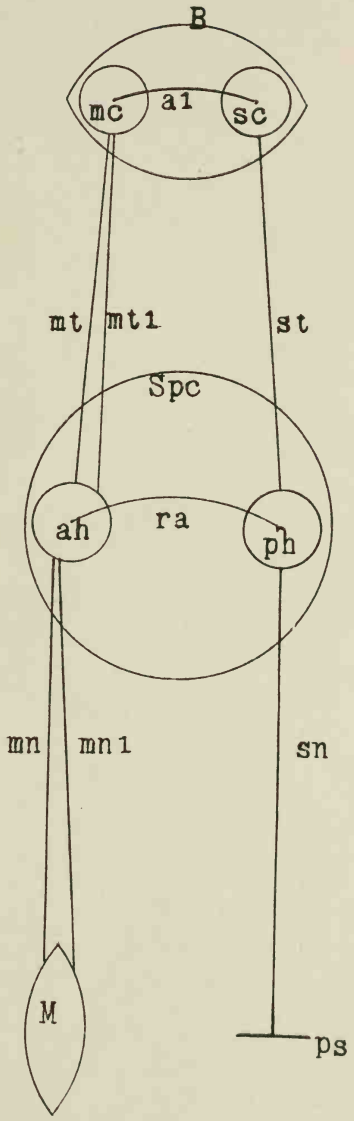

Fig. 4.

The explanation is directly contained in the text.

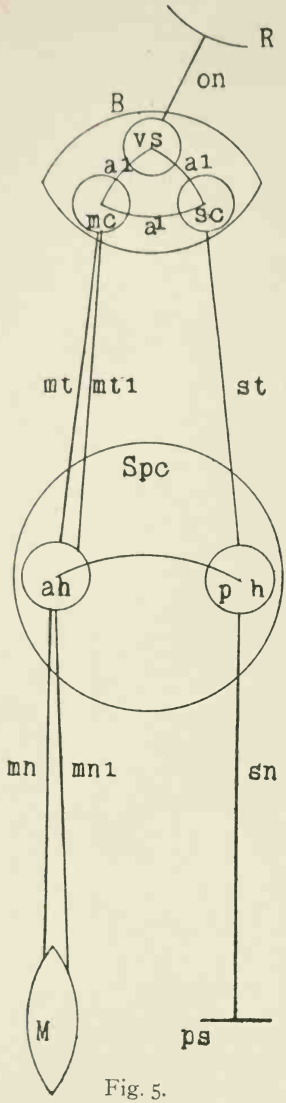

Fig. 5.

Fig. 5.

The contraction of a muscle, M, causes an irritation to be transmitted from the muscle through an afferent fibre of the motor nerve, mn_1, to the anterior horn, ah, thence through the motor tract, mt_1, to the motor center, mc, where a motor impression is produced. Hereafter a visual sensation may cause a movement. The visual impulse travels from the retina, R, through the optic nerve, on, to the visal center, vs, thence through an association fibre, a_1, to the motor center, mc, and further through the motor tract, mt, anterior horn, ah, motor nerve, mn, to the muscle, M, which contracts.

muscles of the arm along the reflex arc described (Fig. 5). The withdrawing of the arm is not a voluntary movement, it ensues also when the child is asleep. The irritation through the pricking is conveyed also to the center of sensibility (sc) and leaves here an impression of pain. If the child has seen the knife, a sense impression, the image of the knife, is simultaneously established in the visual center (vs). Thereafter when the child merely sees the knife approaching its arm, it pulls the arm away. It performs a voluntary movement, it acts intelligently, while the withdrawing of the arm when it was first pricked with the knife, was merely a reflex movement.

Every movement originating in the brain, like the one just described, is a *volitional* movement. Volitional movements constitute the will. They take place, as explained above, only after sufficient motor images have been stored up in the motor center through frequent reflex movements, and the resistances in the motor tracts have been diminished.

Sometimes will is expressed not by executing, but by suppressing movements, although the incitement to perform them is present, for instance, by suppressing a painful outcry while suffering pain.

From the preceding explanations results the following definition of will. *Will is the capability of reenforcing motor images so that movements take place, and also of weakening motor images so that movements are suppressed.*

According to the foregoing interpretation of volitional movements or will, all actions of man and animals would take place in an entirely regular manner following definite fixed causes physically preestablished. Freedom of the will would be inconsistent with this interpretation. Some philosophers, however, maintain that will is free. They either give another explanation of will, or attempt, somehow or other, to bring their view into conformity with the above interpretation—*indeterminism*. But even the adherents of this doctrine must admit that there is an indisputable delimitation of freedom of the will. The latter is particularly lacking in many morbid mental conditions. When a movement can be demonstrated to originate from morbid factors, it is an action executed in a state of want of freedom of the will. From a medical point of view *freedom of the will is excluded in all actions* which *are founded on a psychopathological basis.*

Chapter XI.

NATURAL IMPULSES, INSTINCTS.

Psychical phenomena, also worthy of our attention, which pertain to the activity of the will, are the natural impulses or instincts.

According to Wundt a simple volitional action, i. e., such an action that has only a single motive, is an "impulse action." Such actions, originating from, or having their motive in, certain sensations and sense feelings, are termed instincts. The alimentive and generative organs mainly give rise to those sensations and feelings which call forth instincts. The individual "impulse actions" arise from stimuli, external or internal.

To explain the complex character of many instinctive actions, generically acquired qualities of the nervous system must be assumed in consequence of which congenital reflex mechanisms are set in motion and, without previous training, carry out complicated actions whenever stimuli act upon specific organs.

Instances of instincts in animals are the impulses of many animals to build houses and nests, as with beavers, birds, ants; or else to live in matrimony, monogamic or polygamic, as with many birds; or else to form social communities, as with bees, ants, termites.

The view that instincts are peculiar to animals and lacking in man is erroneous. On the contrary, instincts are very numerous in man. Especially the alimentive and generative instincts are innate in man as well as in animals. The human instincts are most easily recognized in infancy and childhood. Sucking is a well developed instinct of the new-born. By instinct the infant cries at discomfort, pain, or solitude, and smiles at be-

ing caressed. Imitation is a typical instinct, the imitative actions being entirely unpremeditated and ensuing whenever certain perceptions take place. The earliest period of life excepted, this instinct is common to all ages of man. The young child imitates gestures and sounds. At a later age it repeats the games of others. The imitativeness of adults is seen in the tendency to speak and behave like others, to yawn or laugh when others do so, and so on. Another human instinct is the repugnance towards certain substances, such as blood, pus, dejecta. A strong human instinct is the impulse to propagate the species, which finds its expression in the various manifestations of love; and the strongest instinct is the impulse of self-preservation, which causes man to prefer the most miserable life to death.

Chapter XII.

CONSCIOUSNESS.

In every-day language the term consciousness designates various mental states which have only little relation to one another. There is a difference, for instance, between saying, we are in a state of consciousness, and we have self-consciousness. The definition of consciousness, therefore, is very difficult. Some maintain that it is impossible to define consciousness. But even though a definition of the term cannot be exhaustive, yet for our purposes the following explanation will suffice. *Consciousness is that mental state in which we are enabled to receive sensations, to gather perceptions, to operate with them, and to act at will.* An unconscious person is unable to experience sensations, to acquire per-

ceptions, and to act intelligently; he does not see, nor hear, nor execute voluntary movements. *Self-consciousness,* on the other hand, *is the capability of separating one's own individuality from the external world, of recognizing it as something distinct, something special.* An individual receives cognizance not only of external things, but also of his own body, for instance of the attitude of his limbs, i. e., he has self-consciousness.

Self-consciousness includes *orientation,* which depends on memory and constitutes the knowledge of our relation to our environment and our comprehension of time and space.

PART II.

GENERAL PATHOLOGY OF THE MENTAL FUNCTIONS

SECTION I.

PATHOLOGY OF FEELING OR OF THE AFFECTIVE SPHERE

Chapter XIII.

MORBID DEPRESSION.

Morbid depression is a very frequent pathological alteration of the mood. It has great similarity with normal mental dejection, from which it is sometimes hardly distinguishable; at most it differs from it through its intensity. Unmistakable criteria, therefore, are required to confirm the morbidity of a depressed state of mood. There are three such criteria. One of them consists in the absence of any external cause for the depression. The experiences of the patient preceding his depression do not contain anything on which it may be founded. The cause of the depression is an internal one, it lies within the patient himself. Some patients are even able to state that nothing disagreeable has occurred to them, that they do not know what may be the cause of their sadness. If apparently there be any cause, it is entirely inadequate to explain the intensity of the depression. This disproportion between cause and effect is generally overlooked by the inexperienced.

The second criterion is the unusually long duration of the depression. Misfortunes often happen in life about which one cannot be consoled in the beginning.

But a sane person, after a comparatively short time, becomes reconciled to the new state of affairs, grows calmer, and regains his former mental disposition. Morbid depression, however, lasts for weeks and months, and even years, and, what is especially pathognomonic, increases with time instead of decreasing as is the case with normal mental dejection.

The third criterion is expressed by the saying: "Sublata causa tollitur effectus." If one is in a sad mood on account of pecuniary losses, his sadness disappears when the lost sum is restored. An insane patient, however, who mourns for having lost his fortune, will continue to do so even when millions are presented to him, and his mournfulness will not abate, but rather increase at the announcement that he has recovered his lost fortune. It is impossible to remove the morbid depression by external reasons and by persuasion and consolation. Solace and kind words may bring about an appeasement, but it is only apparent or at least very brief. Proud of the success obtained through his clever words of consolation, the comforter comes to his patient on the following day and finds that he has not only achieved no permanent good result, but has made things even worse, the patient being now more depressed than ever.

The three criteria to determine the morbidity of a depressed mood may be summed up as follows: *Depression of mood* is pathological, if it is not explained by any cause, or only an insufficient reason is advanced; if it is not mitigated by time, but lasts unusually long and even increases with time; finally, if it cannot be abolished by removing the ostensible cause, by external reasons, by words of consolation.

This mood or affective state is called the melancholic affective state and is characteristic of melancholia.

Morbid depression increases now and then to an emotional attack of anxiety and fear. The patient, until now apathetic, insensible, and indifferent, becomes greatly agitated, runs about hither and thither, wailing loudly about his fancied misfortune. These attacks are transitory, and the patient lapses into the former depression.

Chapter XIV.

INFLUENCE OF MORBID DEPRESSION ON THE PSYCHICAL FUNCTIONS.

The symptoms of mental disease are in constant interrelation. A change in one psychical province modifies the others. In this interrelation we have a ready means to detect malingerers and an important factor forensically. It is, therefore, advisable always to consider the various symptoms of mental disease in their mutual relations.

The psychical functions undergo a considerable modification through morbid depression of the mood.

The ideational process, the coming and going of the memory images, is retarded during pathological depression. The sphere of ideas is restricted, some ideas are not at all accessible to the patient.

From the retardation of the ideational process results an impairment of memory. The patient cannot recollect many events at all or only with great difficulty. The memory images that can be reproduced are such as have been brought about by painful sensations (pp. 19-20).

A patient in morbid depression is unable to per-

ceive correctly. His perceptions are composed of gloomy, woeful memory images. The patient imagines himself to be lost forever, considers his present circumstances and his future in a most unfavorable light, and thus arrives at delusions.

The volitional manifestations of the patient are diminished in frequency, his energy is reduced. His movements are few and sluggish, he prefers to sit quietly on one spot. Sometimes he even fails to carry out the movements required for taking food and for other physical needs.

When however the patient is seized with an emotion of anxiety, the psychical functions assume a different form (p. 33). While until then he did not give expression to any ideas, being silent, unconcerned, apathetic, he now runs about quickly, wringing his hands and wailing aloud. He complains of a distressing pressure over the chest—the so-called precordial anxiety. He tries to get a hold of all kinds of dangerous instruments to injure himself and others. In this way it appears as though the ideational process were accelerated and the sum of ideas increased. In reality, however, it is one and the same idea which always returns while the state of agitation lasts. The will power is increased, the patient in his anxiety exhibiting great energy and force.

Chapter XV.

MORBID EXALTATION.

The opposite of morbid depression of the mood is *morbid exaltation*. The patient maintains he is in excellent circumstances, hale and hearty, rich like Croesus,

and his future roseate. He is remarkably cheerful and inclined to pun and joke. The criteria for morbid depression (pp. 31-32) are also applicable in establishing the morbidity of an exalted mood. It is even more difficult to find an external cause which would explain the great cheerfulness of the patient. For the happy events of life are, indeed, much rarer than the untoward expeperiences. The second criterion of morbid depression (p. 31) is also more striking in morbid exaltation. If a fortunate event has put a sane person in an extremely joyful frame of mind, he regains his mental equilibrium after a comparatively brief time. Morbid exaltation, however, lasts unabated for weeks and months. The third criterion (p. 32) also comes into consideration. It is impossible to drag the patient down from his heaven of bliss. If one Job's news after the other be conveyed to him, his cheerfulness cannot be lessened. If one were to tell the patient that his future looked unfavorable, he would laugh at him or break out into a rage against the bearer of the ill tidings. But the anger is forthwith replaced by the former cheerfulness. This affective state is called the maniacal affective state and is characteristic of mania.

Chapter XVI.

INFLUENCE OF MORBID EXALTATION ON THE PSYCHICAL FUNCTIONS.

The ideational sphere, memory, perception, volitional activity, undergo a marked alteration through the maniacal affective state. The course of ideas is accelerated, one memory image seems to drive the other away,

and, what has appropriately been termed "flight of ideas," is brought about. The contents of the ideas are of a joyful nature. The patient easily recollects the events of his life, but only the fortunate ones occupy his mind (pp. 19-20). He sees everything in a favorable light, his perceptions have a friendly, cheerful character. He thus judges his circumstances wrongly and overestimates his powers, i. e., he arrives at delusions. These are just the opposite of the melancholic delusions. The volitional acts are increased in frequency. The energy is enhanced with respect to the application of gross motor power (p. 83), but diminished in regard to persistence. In overcoming obstacles the patient may use great force, but he is unable to carry out persistently a definite plan of action, forgetting quickly what he has just intended to do, owing to flight of ideas. Suddenly a new thought flits through his mind, and the plan determined upon is immediately abandoned.

Chapter XVII.

BARRENNESS OF THE AFFECTIVE SPHERE; WANT OF ALL PSYCHICAL FUNCTIONS.

The desolation or barrenness of the affective sphere consists in the lack of feelings, of affective tones. It is characteristic of idiocy. Aside from the extreme emotions, the highest joy and the deepest sadness, the sane person is possessed of an almost unlimited gammut of affective tones which, increasing with his experiences, show innumerable gradations. This great variety of affective tones is lacking in the idiot. He is either con-

stantly indifferent, or angry, or joyful, or depressed. The finer intermediate grades of feeling are missing. He has no conception of filial affection, of friendship, of patriotism, of feeling of honor or shame, and so on. Emotions, however, appear very readily, and surpass in intensity the emotions of normal individuals. A sane person in an emotion of sadness never displays such intense expression of pain as the idiot. When an individual manifests the most violent anger at the slightest inconvenience, we are justified in suspecting that we are dealing with an idiot.

The desolation of the affective sphere is not always congenital, as in idiocy, but may be also acquired. The acquired barrenness of the province of feeling is the consequence of a psychosis or represents its terminal stage. A person whose mind would show the most delicate reactions to all kinds of influences may become entirely dull after having passed through a psychosis. He takes no interest in his friends, the fate of his nearest relatives does not concern him, and he is indifferent to his own lot. Some patients are aware of the devastation of their affective sphere, of the defective reaction of their mind, but cannot help it. They complain of not possessing the same feelings they used to, and reveal to those around them that "their mind and heart are deadened."

Here may be mentioned the condition called stupor and characterized by an almost complete standstill of all psychical functions. Feelings and emotions are wanting, and there is hardly any intimation of an idea. The patients are as if inanimate. Their limbs remain in any position given to them, although such position may be disagreeable or even painful.

Chapter XVIII.

IRRITABLE AFFECTIVE STATE.

Contrary to the barrenness of the affective sphere is the irritable affective state. There are individuals who respond too readily to stimuli, to whom even the ordinary sense perceptions cause discomfort and even pain. A flash of light makes their eyes ache, a strong sound hurts their ears.

Another kind of increased irritability consists in unusual duration and intensity of the emotions. It is met with in those tainted by heredity and in idiots. Such individuals, at the slightest cause, may fall into a state of great affliction lasting exceedingly long and sometimes ending in unexplainable suicide. Such emotions are not interrupted by a shock as has been observed in a patient who was in such a frame of mind. He fell into the water and was pulled out of it in an unconscious condition. Notwithstanding this violent shock his emotional attitude was unchanged upon regaining consciousness.

Chapter XIX.

PERVERSE FEELINGS.

Perversities of the affective sphere are not infrequent. They are met with chiefly in idiots and epileptics. The patients, in certain circumstances, do not react in a normal manner, the affective tones corresponding to these occasions being perverse or absent. Some patients do not hesitate to take into their mouths the most nauseating things. This perversity has been called *coprophagia*. The patients eat their own faeces and those of others,

drink their urine. Sometimes such perverse acts are called forth by delusions. The patients, for instance, imagine that they lose strength with their urine, that by drinking it they would be better enabled to defend themselves against the plots of enemies. Coprophagia is a pathognomonic sign of insanity, and the statement has correctly been made that coprophagia alone suffices to establish the diagnosis insanity beyond doubt, the most cunning malingerer being unable to swallow his own dejecta (p. 27).

To a very slight degree similar phenomena are encountered physiologically. Pregnant women manifest the strangest concupiscences. Odors ordinarily shunned offer them pleasurable sensations, etc.

Some patients lack the feeling of shame. They are not in the least ashamed to denude themselves in the presence of others, to speak of sexual matters without the slightest reserve, to masturbate openly, etc. The tendency of some patients to indulge in obscene language—*coprolalia*—or indecent gestures is due chiefly to the want of the feeling of shame.

Morbid feeling underlies the compulsory ideas (p. 72). This is easily comprehensible especially in the case of those compulsory ideas which appear as morbid fears—the so-called *phobias*—(pp. 70-71). Patients laboring under agoraphobia, on reaching a public square or street, are seized with great fear so that they are unable to cross it. Some patients succeed to pass the street by certain devices, as by grasping firmly somebody's hand, or by getting a hold of a carriage, or by fixing their eyes on a certain object on the opposite side of the street, unremittingly staring at the object for a while, and then suddenly darting towards it.

Other examples of morbid fears are contained in the chapter on compulsory ideas (70).

Another perverse feeling is perverse sexuality. It is chiefly congenital and rarely acquired. Homosexuality is its most frequent and conspicuous type. It consists in aversion to the other sex and inclination to one's own sex. In men it leads to pederasty and produces complete impotence towards the female sex.

SECTION II.

PATHOLOGY OF IDEATION

Chapter XX.

MORBID RETARDATION AND ACCELERATION OF THE IDEATIONAL PROCESS.

The anatomic connection of the sensory elements in the brain (pp. 8-10) renders the association of ideas or memory images possible. When in one manner or another a memory image, stored up long ago as an impression in a sensory element, is awakened, many other memory images are called forth, one after the other, from cerebral elements which are associated with the first one. In this way a constant play of ideas is going on, called the ideational process.

The ideational process may be morbidly retarded, less ideas appearing in a unit of time than normally. The retardation of the ideational process is the usual symptom of melancholia and is due to depression of mood. The association is difficult, certain memory images cannot be reproduced (pp. 19-20, 33). With this delay of the course of ideas is connected an impairment of memory The retardation of the ideational process is also met with after psychoses. Some insanities terminate with such a devastation of the ideational sphere that a great part of the impressions stored up in the brain cortex seems to be entirely wiped out, and the patient's wealth of experiences lost.

The opposite of retardation is morbid acceleration of the ideational process. Some patients produce an immense number of ideas in a unit of time. Ideas just intrude upon them. One idea rapidly follows the other, giving rise to the symptom appropriately termed "*flight of ideas*" (pp. 36, 19-20). The acceleration of the ideational process is the usual symptom of mania. The memory appears to be improved, the patient disposing of his stored up experiences with great facility. On the other hand, he is unable to develop his thoughts in the same way as a sane person, for he cannot retain an idea long enough, deviating quickly from the train of his thoughts. All his perceptions are, therefore, characterized by superficiality.

Chapter XXI.

HALLUCINATIONS.

The hallucinations form a very important morbid alteration in the ideational sphere. A few preliminary remarks are necessary for a clear definition of the term. It has been said a sensation to which no external object corresponds, is a hallucination, for instance, seeing an object which is not present. Related to this is the illusion which has been defined as a sensation to which an external object corresponds, but not in the same form as perceived by the patient. For instance, if the patient sees a person who actually stands before him, and the person appears to him to have fiery eyes or to have his head surrounded by a halo, he has an illusion of the visual sense. This explanation of hallucination is correct only

inasmuch as a hallucination is indeed a sensation not originating from an external object, but the explanation is not sufficient since it would justify designating every memory image as a hallucination. For a memory image is also a sensation not originating from an external object. A more exhaustive definition must, therefore, be sought. It is conceivable that a sensation may be neither induced from the periphery, nor brought about by way of association like a memory image (p. 9), but may originate in the brain cortex at the place where the impressions are stored up. If a pathological irritation be active at this place, it will cause sensations to arise which will have no relation to an external object nor to the association paths. To illustrate the point in a trivial manner, suppose it were possible to prick, with a needle, certain parts of the brain cortex. The individual would have sensations called forth by this artificial injury to his brain. These sensations would correspond to the impressions stored up in the injured cerebral part, and would appear to him to come from the periphery, from a sense organ, for he is unaware of the injury inflicted upon his brain. Now, substitute for this artificial injury a pathological irritation, such as a local inflammation of the cerebral cortex, and it will readily be seen that in the consciousness of the individual sensations must arise which he believes to come from a sense, but which in reality have no relation to the periphery nor to the association paths. The definition of hallucination is, therefore, the following: Every sensation originating, according to the patient's conviction, from a sense organ, but in reality not called forth at the periphery, further every memory image arising in consciousness not by way of the association paths, is a *hallucinatory image;* every

perception composed of hallucinatory images (p. 12) is a hallucinatory perception or simply a *hallucination.*

Illusion is closely related to hallucination. In everyday language this word is often used to express an inadequate perception. We sometimes say one has been under an illusion when, for instance, walking on the street he believes to see an acquaintance, but on approaching finds that it is some one else. In a psychiatrical sense, however, this is no illusion, but merely a superficial perception. *Illusion,* as a medical term, signifies an actual sensation during which the patient hallucinates, a real perception interfered with by the supervening of a hallucination. One who is subject to hallucinations is liable to have illusions at any moment. If he were put into a dark room where he sees nothing and hears nothing, he would have pure hallucinations. But when he is on the street where he sees objects and hears noises, his hallucinatory sensations will combine with actual sensations to form illusions. He will see, for instance, persons, but in cadaverous appearance or in queer colors; he will hear noises, but terribly loud, etc. It is evident that such a perception is very different from what is sometimes called illusion in ordinary language. If one imagines he sees an acquaintance and finds later that he has been mistaken, this is merely a deficient observation, the capability of the senses not having been sufficient for the right perception. In the hallucination as well as in the illusion one hallucinates, but in the latter at the moment of an actual sensation. A patient, for instance, stated that he saw on the street a person with a golden halo around his head. This was an illusion; he saw somebody, and in the same moment he hallucinated in the visual sense.

Hallucinations occur in all the senses, most fre-

quently in the senses of hearing and of sight. The auditory hallucinations seem to be more frequent than the visual hallucinations.

It is comprehensible that after the loss of a certain sense, hallucinations relating to that sense can take place. For the loss of a sense does not imply the extinction of the impressions stored up in the brain through this sense. The impressions remain in the cerebral cortex and may give rise to hallucinations. And indeed, it is often observed that patients with acquired blindness hallucinate quite a good deal in the visual sense when suffering from a psychosis. The same is the case with the sense of hearing. But illusions can never occur in the sphere of a lost sense. For illusions are combinations of actual and hallucinatory sensations; the former, however, are done away with by the loss of the sense.

According to a general biological law there is no sharp limit between the normal and pathological. The limit, geometrically expressed, is not a line, but a zone, the so-called physiological latitude. This law applies also to the distinction of normal memory images from hallucinatory images. Between both there are gradual transitions. In recollecting a shot the auditory memory image is comparatively weak. It is far from having the intensity of the auditory sensation actually received when hearing the shot. But there are people in whom the memory images are much keener than in the average person. An ingenious musician remembers a melody with great vividness, he almost hears it. Great artists, thinking of the picture they want to paint, have it before their very eyes. There are, therefore, even in sane people considerable differences in the intensity of memory images. If, however, a pathological irritation be

active at the place where sense impressions are stored up, images arise in consciousness as vivid as actual sensations. They are spoken of as hallucinations while this term is not applied to the extremely vivid memory images of sane persons. For there is a great difference between the two instances aside from the non-participation of the association paths in one instance and their co-operation in the other. The sane person, be his memory images ever so vivid, is still conscious that he is dealing with nothing else but memory images, with ideas arising very strongly within him. The diseased individual, however, does not recognize his memory images as such, but believes to have actual sensations coming from the periphery, from a sense organ.

Chapter XXII.

AUDITORY HALLUCINATIONS.

The auditory hallucinations are the most frequent. For by the sense of hearing most of the experiences in life are acquired. More auditory memory images are, therefore, deposited in the cerebral cortex than memory images obtained through any other sense.

Patients whose acoustic memory images are different from the normal memory images of sound, are not yet afflicted with auditory hallucinations. Between the normal auditory memory images and auditory hallucinations there are gradual transitions. Some patients complain that a word or a melody which they are merely thinking about appears to them very vivid. But their memory images are still sufficiently faint, far from being equivalent to spoken words. The patients still know

that another person cannot hear their memory images. This is the first step leading to pathological conditions, but still met with normally. In the next grade patients say they hear their thoughts so loudly that they are under the impression that others standing very near may also hear them, but they are not as well perceptible as words spoken aloud. Again other patients complain of their thoughts becoming so loud that people passing by can hear them. They maintain that their thoughts are repeated by others. Reading silently they hear everything repeated as though others would read with them. But although these acoustic memory images are of such intensity that they are not distinguishable from actual auditory sensations, the patients are yet conscious that they are their own thoughts, i. e., they are still sensations brought about by way of association. Other patients finally assert they hear words originating from without, and are certain that they are not their own individual thoughts. They have auditory sensations, the origin of which they refer to the outside world, but which in reality originate in their own brain cortex, at the seat of the auditory sense impressions. Such patients, therefore, are suffering from true hallucinatory sensations. The last example illustrates purely pathological conditions, while the preceding examples refer to the transitional stages between the normal and pathological.

The auditory hallucinations show the same variation in intensity as the normal sensations of hearing. One may hear something spoken in a whisper, or uttered aloud, or something may be thundered into one's ear. Likewise the auditory hallucinations vary. Their intensity may be as slight as that of memory images of hearing. The patients commence to notice that some-

thing is being "suggested" to them. They are convinced that it is no thought of their own, no memory image; for it does not at all appertain to their thoughts, forms no part of them. It appears to the patients that ideas not their own are infused into their mind. They arrive at the notion that suggestions are imparted to them by a superior power, by God or the Evil One, according to the contents of the suggestions. In the next grade hallu-

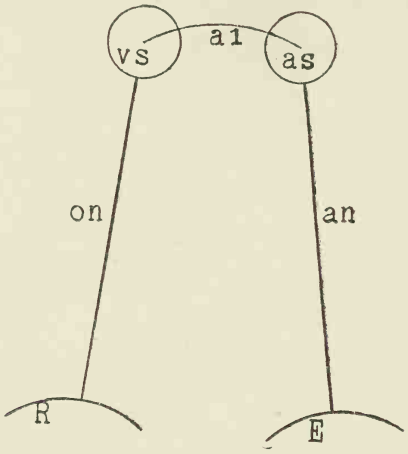

Fig. 6.

When the retina, R, is stimulated, the irritation is conveyed through the optic nerve, on, to the visual center, vs. It may travel further through the association path, a_1, to the auditory center, as, and call forth an auditory image. The intensity of this image may be abnormal, but the way a_1, by which it has been awakened is used also under normal conditions.

cinating patients say they hear words spoken in a whisper, or at a great distance, or near by and in an ordinary tone of voice. Other patients, finally, relate that words are violently shouted into their ears, or they hear walls crash-

ing with terrific din or the roar of cannons. These are auditory hallucinations of greatest intensity.

Patients who complain about their thoughts becoming loud are not diseased to the same extent as those having pronounced hallucinations, even if the latter have only the low intensity of memory images. For in the first instance the patients have sensations which are nothing else but memory images of unusual intensity and come by a way also used under normal conditions (Fig. 6, a_1); in the second instance, however, the sensations of the patients arise in a cerebral part (a s) where normally sensations never take their origin.

Chapter XXIII.

VISUAL HALLUCINATIONS.

Similar conditions prevail in the sense of sight. Some persons assert that a picture which they are thinking of appears to them as vivid as though they would really see it. Yet they are conscious that it is merely a memory image. This great vividness of the visual memory images represents the transition to pathological conditions. In pronounced visual hallucinations the patients say they see things before them which in reality are not present. The visual hallucinations show the same gradations as the auditory hallucinations. Some patients say something flutters past their eyes, or they see shadows, things of vague shape and indeterminate color, without form, flat, hazy, gray. When the visual hallucinations are stronger, the patients perceive persons and objects of distinct shape and definite color, red, green, or blue. Such hallucinations do not differ any more from actual sensations.

Other patients finally see flames, burning structures, flashes of lightning, etc. These are visual hallucinations of maximum intensity.

Visual deceptions different from those just mentioned are the following: Patients relate that they see figures changing their sizes. In the beginning the figures appear big, then they become smaller and smaller, and at last they fade away entirely. In other patients the apparitions are inverse. They begin to perceive animals and things of minute size. After a while these change into immense masses or huge monsters. With such hallucinations is connected a perception of movement. When a patient sees a figure growing bigger, he believes that it approaches towards him; he notices something coming nearer and nearer until it finally penetrates into him. Such deceptions give rise to the belief in devilry. Another visual deception consists in seeing a multitude of things, of many threads, gnats, beetles, mice, etc. Some patients see many objects in motion, rats jumping about, insects fluttering, little men dancing, etc. (delirium tremens, p. 260).

Chapter XXIV.

TACTILE, OLFACTORY, AND GUSTATORY HALLUCINATIONS.

Next in frequency are the hallucinations of the tactile sense. Some patients tell of being gently touched, of formication; others complain of intense pressure on various parts of the body or of having been shot. Again others report that the roof of their scull has been lifted away and their brain is exposed; they beg pitifully not to be touched on the head or shaken in any manner.

Some patients feel as though dust were constantly falling on them from the air, and cover themselves to prevent it from reaching their body. Sexual deceptions are also to be mentioned here. Female patients relate accounts of having been criminally assaulted.

In the sense of smell hallucinations are frequently met with. Some patients perceive cadaverous odors. Such hallucinations lead the patients to the delusion of being on a graveyard or of having eaten human flesh, and the like. Other patients scent brimstone everywhere. They bring this into relation to the devil who according to folklore spreads a sulphurous odor. Other patients again complain of smelling burnt stuff, such as singed hair, etc. Also agreeable perfumes are perceived by some patients. They imagine that they inhale an atmosphere of a finer fragrance than others.

Regarding the sense of taste it is often difficult to decide whether hallucinations attributed to it do not belong rather to the sense of smell. For when a patient, for instance, says something has a putrid taste, this may also be an olfactory deception. Frequently patients complain that their food has a metallic taste, as of copper. Other patients perceive a bitter, salty taste, etc. Gustatory hallucinations may lead the patients to the delusion that poison has been put into their food.

Chapter XXV.

SEQUELAE AND SYMPTOMS OF HALLUCINATIONS.

A patient may hallucinate in more than one sense. In delirium, for instance, hallucinations take place in all the senses. It is evident that such a patient must become

entirely confused. For the things that he sees do not exist, the words that he hears are not spoken, and so on. One consequence of hallucinations, especially when they are manifold, is, therefore, a state of confusion. Delusions and violent acts form another important sequence of hallucinations. The patient draws conclusions from his hallucinations in the same manner as a sane person from his normal sensations. When he hears abusive words, he concludes that somebody is insulting him, and is misled to commit an assault upon a supposed enemy. Hallucinations have so great an effect upon the patient that he obeys them more promptly than his real perceptions. Many offenses committed by the insane are to be attributed merely to hallucinations. The reason that hallucinations have a greater influence on patients than normal sensations is that the former are founded on pathological processes, and these are often of greater intensity than the normal sensational processes. While a patient hallucinates his normal perceptions are forced into the background. Just as a strong normal sensation causes a person to direct his attention to the object producing the sensation and to overlook everything else, so also a hallucination, owing to its greater intensity, absorbs completely the attention of the patient and prevents him from becoming aware of other sensations. This monopolizing of the patient's attention characterizes hallucinations. In the midst of a conversation we notice that all of a sudden the patient assumes an air of pensiveness or absent-mindedness and does not listen any more to the words directed to him. This abrupt distraction is a fairly sure sign that at this very moment hallucinations have arisen in the patient's consciousness, attracting all his attention.

Chapter XXVI.

DELUSIONS.

The most important morbid phenomena in the ideational sphere are the delusions. For by this symptom more than by anything else the patients attract the attention of neighbors and relatives and are recognized as insane.

Laymen care less for essential features of delusions than for the casual sign that they often contain a palpable absurdity. They are ready with their judgment when they hear an irrational utterance. The physician cannot assume such a standpoint. For otherwise he would be unable to differentiate malingery from disease, which is very important, especially in forensic matters. To be able to detect the wiles of an impostor he must have a more profound conception of delusions and must be guided by unmistakable criteria. These are obtained by considering the origin, the source of delusions, by proving that their genesis is pathological.

The principal source of delusions are hallucinations and illusions. These impart to the patient certain notions in the same way as a sane person draws conclusions from his normal perceptions. The conclusions derived from hallucinations and illusions represent *delusions*. An error is far from being a delusion. One often errs in life, owing to superficial observation or to lack of experience. Only when a notion, be it true or not, can be shown to have its origin in hallucinations, is it to be designated as a delusion. Delusions may contain a truth. For example, a patient took the notion that his father was dead, which was not the case. According to laymen's conceptions this is at once a delusion. But the physician has to

prove first that the patient is suffering from hallucinations before he is justified in assuming a delusion. The importance of such a proof is seen by what followed. After a lapse of some time the father died, and the son's notion thus became true. Laymen would say the patient was now free from his delusion, but from a psychiatrical point of view the delusion is still present, although now it contains a truth.

Another source of delusions lies in morbid alteration of the affective state. Suffering from morbid depression, the patient sees everything in an unfavorable light, for only such memory images arise in his consciousness which have been produced by painful sensations (pp. 20, 34). Working with such memory images, he acquires sad perceptions. The presence and future appear gloomy to him, he underestimates his capabilities and his circumstances, believes himself to be despised and persecuted, to be lost forever. These are delusions of a depressive nature.

On the other hand, when laboring under morbid exaltation, only memory images of a cheerful character arise in the consciousness of the patient (pp. 20, 36). This leads him to conclusions which deceive him regarding his powers, he overestimates his capabilities and his circumstances. These are delusions of exaltation.

When, therefore, in a given instance it is possible to demonstrate that a notion formed by the patient is founded on hallucinations or illusions, or on a morbid alteration of the affective state, this notion is to be considered a delusion.

Chapter XXVII.

CLASSIFICATION, DIAGNOSTIC VALUE, AND SEQUELAE OF DELUSIONS.

Formerly innumerable sorts of delusions were distinguished. Indeed, everybody produces delusions peculiar to his character, education, and calling in life. The delusions of the army officer, for instance, will differ from those of the priest. To obtain a proper guidance in the great variety of delusions it is best to classify them so that the diagnosis of the psychoses may be facilitated. Accordingly the following delusions may be distinguished: 1. Delusions of grandeur ("Grössenwahn," megalomania); 2. delusions of self-depreciation ("Kleinheitswahn," micromania); 3. delusions of furtherance ("Förderungswahn"), i. e., of being the object of favor or bounty from persons in high position, through supernatural powers, or even through propitious circumstances; 4. delusions of grievance ("Beeinträchtigungswahn"), i. e., of being wronged or of innocently suffering injuries. Delusions may be fixed, i. e., irremediable, or they may still be capable of correction. A distinction can also be made according to the explanation which the patient advances for his delusions. A fairly plausible reason may be brought forward by the patient for his delusions, or he may give a very inadequate reason for them or no reason at all. The latter are called *absurd delusions*.

This classification of the delusions is of great diagnostic value. All delusions of grandeur are characteristic of maniacal excitatory states. In such conditions we never fail to observe that the patient overestimates himself, his present circumstances, and his future. If he is able to state some plausible reason for his exalted no-

tions, he is suffering from ordinary maniacal excitement, but if no explanation is advanced by the patient for his delusions of grandeur, paretic excitement or dementia praecox is to be surmised; in other words, absurd delusions of grandeur indicate general paresis or dementia praecox. Something analogous applies to the delusions of self-depreciation. They are pathognomonic of melancholic states. If they are fairly well accounted for by the patient, we are dealing with a melancholia of slight intensity and of a comparatively favorable prognosis. If however the delusions bear the stamp of absurdity, general paresis or dementia praecox may be assumed. The delusions of furtherance and of grievance are characteristic of paranoia.

That the conduct of the patient is greatly influenced by his delusions is evident. As the sane person is prompted to act in conformity with his convictions, to offer sacrifices for them, and not to abandon them without good cause, so also a patient is prone, we may rather say, compelled, to conform his actions to his delusions. Before long he begins, driven by their compelling force, to commit acts which bring him into conflict with his neighbors. Owing to delusions, crimes of the worst sort may be perpetrated by the patients. Such actions dictated by delusions are to be regarded as performed in a state of want of freedom of the will. For the physician has to consider any action as involuntary which he can demonstrate to originate from pathological factors (p. 25).

Chapter XXVIII.

DIFFERENTIATION OF THE DELUSIONS.

Delusions of furtherance may be easily confounded with those of grandeur, and delusions of grievance with those of self-depreciation. An exact distinction is, therefore, required because of the diagnostic importance (p. 55) of the different forms of delusions. This distinction is obtained by inquiring into the role which the patient's self, his ego, plays in the delusion. When, for instance, the patient says he will soon ascend the throne of Brazil, this assertion may be a delusion of grandeur as well as of furtherance. If the patient maintains that he is able to conquer the throne through his great wisdom and power, he is laboring under a delusion of grandeur. It is the patient's own self that is great and mighty. If however he says he is descended from parents who have a claim to the throne, he is suffering from a delusion of furtherance. The essential element furthering the patient lies in his birth. If a patient says he will obtain great wealth because of being the protégé of a powerful prince, he has a delusion of furtherance. But if he maintains to possess millions because, through his great cleverness, he has discovered the art of making gold, he suffers from a delusion of grandeur. If a patient says he has been chosen by God to redeem the sinful world, he has a delusion of furtherance. If however he maintains to possess unlimited divine power enabling him to bring order and rule into this wicked world, he is possessed by a delusion of grandeur.

The same relation prevails between the delusions of grievance and those of self-depreciation. Some patient harbors the intention of suicide. He says he is exposed

to intolerable persecution so that he is disgusted with life, that life has no attraction for him any more. To say simply the patient suffers from a delusion of persecution would not clear up the diagnosis. We must try to find out what the patient thinks of his own self. If he says that he is unworthy, that he deserves no better treatment from those around him, that persecutions still worse ought to be his share, he labors under a delusion of self-depreciation. For the patient's self plays a guilt-laden role and is worthless and despicable. If however the patient says that he is entirely innocent, that he does not understand at all why he should be the object of malicious oppression, he is swayed by a delusion of grievance. For he still values his ego a great deal.

Chapter XXIX.

SYSTEMATIZED DELUSIONS.

When delusions of furtherance and of grievance exist concomitantly, the diagnosis paranoia may be made with more certainty than when the patient manifests only one kind of these delusions. Between the two varieties of delusions there is often a palpable contradiction which the patient may be aware of and which he tries to explain away. The patient, for instance, says he will soon ascend the throne of Brazil, to which he is entitled by birth. He thus suffers from a delusion of furtherance. At the same time he maintains to be maliciously persecuted. This inconsistent assertion that so high a personage as a future emperor should be the object of oppression, is explained by the patient in the following way: There are other pretenders to the throne who are

trying to prevent him from obtaining his rights, who are seeking after his life, and who are contriving all the persecutions which he is exposed to. This weighing and adjusting of different notions, this effort to solve apparent contradictions between them, are called systematized delusion. It is pathognomonic of paranoia. Patients laboring under systematized delusions would retrospectively change their whole past to bring it in accord with their present notions. In this way arise the romantic tales of some patients relating to their birth, their early youth, their education, etc. (p. 178).

Chapter XXX.

FIXED DELUSIONS.

It is very important to have an exact knowledge of the so-called *fixed delusions,* a diagnosis of great significance being established when they are demonstrated. A patient with fixed delusions is suffering from secondary insanity, which forms the continuation or the incurable terminal stage of primary insanity (pp. 181, 184). Since so ominous a prognosis is furnished by the presence of fixed delusions, an accurate understanding of what is meant by the term is required. Many a delusion may last very long, for weeks and months; still it is not a fixed delusion. It may finally be supplanted by another delusion or abandoned entirely after having been recognized by the patient as a wrong notion. If however a patient clings to a delusion for years, we would perhaps be justified in regarding it as a fixed delusion. But the duration of a delusion cannot be taken as a criterion for its being fixed. For there is no essential point available

for establishing the limit of time beyond which a delusion must have lasted to be justly considered a fixed delusion. While some would find this limit in a few months, others would not regard even several years as a sufficient time limit. A more reliable criterion, therefore, is necessary. This is readily found when the source of delusions is taken into consideration. The absence of the factors which produce delusions is an unmistakable sign that the delusions are fixed. When there are no more hallucinations and illusions, and the affective state of the patient is entirely normal (pp. 53-54), and he still clings to his former wrong notions, they have become fixed delusions, the patient being mentally so enfeebled by the preceding psychosis that he is unable to recognize his delusions as such and to abandon them. Had the psychosis not terminated in mental weakness, the patient would have given up his delusions.

Chapter XXXI.

DISTURBANCE OF MEMORY IN GENERAL.

Memory is the capability of producing ideas by way of association. For this end sensations must have been received and must have left impressions in the sensory elements of the brain cortex, these elements must be anatomically connected with each other, and the association paths must be conductive.

Manifold disturbances occur in the activity of the memory. Some of them are especially worthy of note, as the abnormally increased capacity of memory, hypermnesia, and the diminished capacity of memory, hypomnesia and amnesia. The capacity of memory is not the

same in different healthy persons, it varies even in one and the same person according to the state of fatigue or rest and according to age. In youth impressions are more readily received and events more easily recalled, in advanced age both these faculties decrease. As a compensation the person, mature in years, aids his memory by understanding and reasoning, finds by inference how an event probably came about. A young person, for instance, can remember exactly that he did not make a certain remark attributed to him; a person advanced in years may not be positive about this by virtue of his memory, but by an operation of the understanding he will arrive at the conclusion that such words could not possibly have been uttered by him.

Chapter XXXII.

ABNORMALLY INCREASED CAPACITY OF MEMORY.

In all maniacal states the capacity of memory is temporarily increased, owing to the facility of association (pp. 19-20, and Ch. 16, p. 35). It must be assumed that in maniacal conditions many mental processes are intensified. For this reason the resistance in the association paths is more easily overcome. When the maniacal excitement is at an end, the increase of the capacity of memory also ceases. This is not to be regarded as due to fatigue brought about by the enhanced work of the memory during the preceding maniacal excitement. For there are psychoses in which maniacal states alternate very frequently, even daily, with melancholic ones. In these cases we observe a lowering of the

capacity of memory with the beginning of the melancholic state and a rising with the onset of the maniacal excitement, both too prompt to be attributed respectively to fatigue and restoration.

A patient in maniacal excitement is aware of the improvement of his memory and thinks that he has become more clever than he ever was.

Besides the transitory improvement of memory in maniacal states there is a permanent hypermnesia which is very remarkable. Individuals who are intellectually backward and defective in their affective sphere may display, so to say as a compensation, increased capacity of memory. Such compensation is often observed physiologically. The capacity of one organ is sometimes conditioned by that of another organ or another group of organs. After the extirpation of one kidney the other accomplishes more than before. The organ left becomes larger, hypertrophied, and its efficiency is greatly enhanced. If one sense has not been developed or has perished, another sense becomes more efficient. The hearing of those born blind is remarkably acute, and their tactile sense perhaps more so. The blind know whether they are approaching a wall; one may say they "hear" the wall, and this probably by the resonance of their steps becoming stronger with the approach towards the wall. Something analogous applies to the capacity of memory in individuals whose intellectual development has been arrested. As a compensation for the deficit in other mental faculties the memory vicariously possesses increased capacity.

The permanent hypermnesia has another basis than the transitory one of the maniacs. It is not founded on the facility of the association, but on the sensations leav-

ing more readily impressions in the cerebral cortex than is normally the case (pp. 7-8). It is astonishing what a wonderful memory for the most unimportant trifles is manifested by these patients. In school the teachers are surprised about their faculties. They know by heart almost everything they have read. In the elementary schools they often make excellent progress, and even in the higher schools they may distinguish themselves. Simply by reproducing the judgments of others they create the impression of being highly intelligent. Individuals with such awe-inspiring memories are like a book, like a dictionary. We may say they decorate themselves again and again with false plumes.

Such individuals may be recognized as mentally defective only by deficiency of understanding and character (Ch. 82, p. 199).

When judging individuals with exceptionally great power of memory in legal matters it is necessary to take into consideration the pathologically enhanced capacity of memory. Children with wonderful memories must not be regarded at once as highly gifted. Especially when a person coming from a family in which insanity has prevailed displays an exceedingly powerful memory, his mental health ought to be well taken care of. For it is to be borne in mind that just those tainted by heredity and endowed with remarkable memories have a strong predisposition to mental disease.

The abnormally increased capacity of memory just described, which is met with in idiots, subsists all through life provided no acute psychosis supervenes.

Chapter XXXIII.

DIMINISHED CAPACITY OF MEMORY.

In contrast to the maniacal states, the capacity of memory is reduced in all melancholic conditions, owing to the difficulty of association (pp. 19-20, 33). This impairment of memory is transitory, ceasing with the disappearance of the depressed mood.

Permanent reduction of the capacity of memory, hypomnesia or amnesia, may be based on the sensations failing to leave impressions in the brain cortex (pp. 7-8). To some extent this is physiologically the case in advanced age. Some things, as names, numbers, do not "cling" any more. Pathologically the failure of the sensations to leave impressions occurs in premature and in excessive senescence. The patients perceive something, and in the next moment they do not know anything about it. They peruse the newspaper, and yet they do not know what they have read. When a relative or a friend, after long absence, comes into their home, they embrace him joyfully. When thereupon they leave the room for a while, they forget everything, and on entering the room again and noticing the friend, their joy bursts out anew, as if they would see him for the first time. This experiment may be repeated several times, and in this way such patients may be made to enjoy again and again the pleasure of seeing a dear friend after long absence.

Diminished capacity of memory based on the same cause as the hypomnesia of senility is met with in paretics and in patients suffering from secondary dementia. The patients hear, see, etc., but the sensations leave no impressions.

Another form of amnesia is caused by destruction of impressions through an acute psychosis. Memory suffers through a mental disease in the same way as through actual loss of brain substance. Impressions of the sensations are, somehow or other, formed in the brain cortex—such a hypothesis is absolutely indispensable. Hence an operation on the cerebral cortex, causing loss of brain substance, will necessarily obliterate a certain sum of impressions. The individual operated upon is by no manner of means able to reproduce the lost impressions. At best he can acquire them anew by experiencing again the corresponding sensations. Such a condition is actually created by apoplexies. If the destruction by hemorrhage of brain substance has taken place in that cerebral part where the auditory images are stored up, aphasia is the result. The patient is unable to speak for want of word impressions, the reproduction of which constitutes speaking. After the pathological process has come to an end and cicatrization of the injured cerebral part has come about, the lost auditory impressions may be acquired anew. Such extinction of impressions occurs also in acute mental diseases without hemorrhage or any other demonstrable injury to the brain cortex.

In general paresis both forms of amnesia mentioned above are met with. The sensations fail to leave impressions, and impressions are actually destroyed through gross pathological processes.

A third form of amnesia occurs in diseases associated with disturbance of consciousness. The memory at any rate is dependent upon the lucidity of consciousness and is in direct proportion to it. In light slumber events are not remembered as well as in a waking state,

Patients in an unconscious condition are unaware of what is going on around them, do not acquire perceptions, and cannot make use of their faculty of memory. After awaking they cannot remember anything that has transpired during the unconscious state.

Periods of unconsciousness are frequent in epilepsy. After a convulsive seizure the patients have no knowledge of what has been going on during the attack; they even do not know that they have had an attack, finding it out only through some injury received in their unconscious condition, as a bite on the lips or tongue or a bleeding wound.

Epileptic patients are subject to spells of disturbance of consciousness without convulsions. These periodic epileptic spells are the so-called psychic equivalents of the completely developed epileptic attacks (pp. 243-244). The patients do not fall down, seized with convulsions, but walk about and even perform complicated actions, sometimes of a dangerous character, without being aware of it—automatism. These automatic states may last a long time, several days and weeks. When the patients regain their normal consciousness, they cannot remember any events that may have taken place during the spell. There is a perfect gap of memory for the entire duration of the spell.

The amnesia of the epileptics is of great moment in forensic matters. If an epileptic has committed a criminal act during a psychic equivalent, it is of considerable importance for the medico-legal expert to demonstrate that the defendant has a gap in his memory. For this would establish the fact that he is subject to psychic equivalents and would render him irresponsible during these periods.

A similar amnesia and gaps of memory are met with in patients suffering from other diseases in which spells of loss of consciousness occur, as in hysterical patients.

Chapter XXXIV.

SOME PECULIAR DISTURBANCES OF MEMORY.

A remarkable impairment of memory occurs after attempts at suicide through hanging. It is evident from the foregoing chapter that the patient is unable to remember anything that has taken place during the time of unconsciousness. But what is rather strange is that he cannot remember what has immediately preceded the suicidal attempt. Thus he does not know what implement he has made use of to hang himself. This form of amnesia can be produced experimentally. When the carotid arteries are compressed, the individual experimented upon quickly loses consciousness (p. 5). When the compression ceases, consciousness returns. The individual cannot remember the incidents preceding the experiment. He does not know, for instance, whether or not he has given his consent to the experiment. At this place it is necessary to remark that the experiment requires great caution. The compression of the arteries has to be performed very slowly. Immediately after unconsciousness has ensued, the compression of the arteries must cease, and this very gradually too. With this precaution the experiment is not dangerous.

Another peculiar disturbance of memory consists in deception of memory. Even sane people have sometimes a feeling as though they had been before in a given

situation, although this has never been the case. This feeling is transient. But there are patients in whom such feelings are rather permanent. They maintain, without any affectation or boastfulness, to have known or seen things that are shown to them for the first time in their life. Confounding of persons is based on such deceptions of memory. The patients believe to know a person whom they meet for the first time, or to recognize in him an old acquaintance. Things belonging to others are appropriated by such patients and claimed as their own, and in this way they may come into conflict with the Penal Code (pp. 89, 255).

Chapter XXXV.

COMPULSORY IDEAS.

Certain ideas have been designated as compulsory ("Zwangsideen"). The person harboring these ideas is, somehow or other, under compulsion to have them constantly in his consciousness and cannot rid himself of them. Compulsory ideas are met with not only in patients, but also in persons who are sane and even intelligent and equal to their vocation in life.

It has been said every idea that intrudes upon the consciousness of a person and persists against his will is a compulsory idea. This definition is too narrow; for there are ideas which are intruding upon the consciousness of a person and persisting against his will and yet cannot justly be called compulsory. A person may commit a wrong and be constantly haunted by the idea of his improper act, and yet the term compulsory idea is

not applicable to such an instance. We speak here rather of the voice of conscience. When one is expecting an event capable of causing him sorrow or joy, the idea of it intrudes upon his mind and persists against his will. A student often has to think of the imminent examination in the midst of his pleasures, and yet we do not say he is suffering from a compulsory idea.

To arrive at the proper conception of compulsory or imperative ideas, it is advisable to consider a few examples of ideas which may unquestionably be called compulsory. A patient complained that the number 13 was always present in his mind. He knows that a certain significance is attributed to this number, but he does not share this superstition. Another patient was grieved about having to think of certain blasphemous words whenever he took a prayer book into his hands. In spite of his endeavors he does not succeed to disconnect in his thoughts obscene things from holy ones. On the contrary, when he does not resist the course of his thoughts, he feels more relieved. Again another patient was annoyed that whenever he beheld a woman he could not dissociate from her the idea of her being pregnant.

The common feature in all these instances is that the patients are perfectly convinced of the insignificance and absurdity of the idea that occupies their mind. In other instances, however, the subject of the idea is of great importance. A woman, mother of one child, was constantly haunted by the thought that the child might fall out of the window during her absence. In this alone there is nothing strange inasmuch as any tender mother's mind may very well be invaded by such a thought. But the pathological feature is that she was compelled to imagine the child had fallen down and was lying on the

ground with crushed limbs. She fancied that when she would be in the room with the child at the window, she might push it off from the sill to see whether the actual scene of the child falling down and being crushed corresponded to the horrible picture of her imagination. She was positively afraid to be alone in the room with the child.

Another form of compulsory idea is the tendency to ponder over problems which do not have the slightest value (*"Grübelsucht"*). The patients constantly analyze nonsensical questions, for instance, why two times two are four and no other number, or why the world has been created in six days and not in five. The patients are aware of the ridiculousness of these problems.

To the compulsory ideas belongs the habit of doubting—*folie du doute*. At night before going to bed the patient shuts the gate of the house. When he has laid himself to sleep, he gets the idea that he did not close the gate properly. It worries him so long that he feels compelled to get up and convince himself that the gate is closed. When he is in bed again, the same idea begins to disturb him anew and causes him to get up. This may be repeated several times. Something similar occurs in writing letters, counting money, extinguishing lights, and so on. One writes a few letters and puts them in their respective envelopes. Thereupon the idea begins to trouble him that he has mixed up the letters and compels him to tear open the envelopes. This act he has to repeat several times. Another one cannot satisfy himself that he has counted his money correctly and has to count it over and over again.

Among the compulsory ideas are to be counted the various phobias. Some patients suffer from the fear of

contact—*délire du contact*. They scrupulously avoid touching many things for fear of taking in some germ of disease. Other patients have casually read that people had become victims of rabies without knowing that they had been bitten by a dog. From that moment the idea worries them that they also may have been bitten by a mad dog without knowing it. Some patients are in constant fear of their clothes becoming dusty or of being soiled in some other way—*mysophobia*. Patients affected with the so-called *agoraphobia* are unable to pass a public square or a street, or to approach a gathering of people (p. 39). *Astraphobia* is the exaggerated fear of thunder and lightning. The patients are seized with apprehensive excitement even at the approach of thunderstorms and are sometimes so sensitive that they can predict them long before they appear, the same as rheumatic patients foretell weather-changes. Patients suffering from *claustrophobia* are afraid to stay in closed rooms. Other phobias refer to the activities of the internal organs. Thus some patients are in constant fear that their heart may stop, or their lungs discontinue to breathe.

These are all examples of real compulsory or imperative ideas. It is true, they persist in the consciousness of the patient against his will. But this is not essential. What is more important is that he cannot rid himself of them notwithstanding his firm conviction of their absurdity and insignificance. A patient laboring under agoraphobia knows very well that no disaster is likely to befall him in crossing a street.

To obtain a satisfactory definition of compulsory idea the question must be answered what enables a healthy person to retain certain ideas and to abandon

others forthwith, for instance, what makes him give up thinking why two times two are four and no other number. He succeeds herein first by the conviction of the utter insignificance of the problem. But since patients also have this conviction, some other factor must play an important part. This factor is found when intelligent patients are questioned. They report that they are well aware of the absolute insignificance and even of the ridiculousness of the idea they constantly have to keep in mind, but that nevertheless they cannot get rid of a certain feeling as though the thing is important after all. To this feeling they have to yield contrary to their conviction. Now, in the healthy person with the knowledge that a problem is insignificant and void is connected a corresponding feeling that the problem is to no purpose. It is a peculiar affective tone. It is owing to this feeling that he is not compelled to think over the useless problem and is able to dissociate it from the train of his thoughts. In the diseased individual, however, the conviction of the insignificance of a thing either lacks the normal affective tone or is accompanied by an abnormal feeling. All these preceding considerations lead us to the following definition of compulsory idea. *If with a certain idea an abnormal affective tone is associated, and, due to this morbid feeling, the idea is retained in consciousness against the will notwithstanding complete conviction of the insignificance of the subject, this idea is a compulsory, imperative idea.*

Compulsory ideas are met with during convalescence from psychoses. But also persons who have never had a psychosis may be subject to them. As a rule, those affected are people with a family history of insanity.

Fatigue may also be regarded as an etiological factor, as in psychasthenics.

Some patients become incapacitated for useful work through their compulsory ideas. Other patients have even to be committed to an insane asylum on account of them. For such ideas sometimes increase to impulses, and the latter may lead to compulsory actions which render the patient dangerous to himself and his neighbors (Chapter 42, p. 86).

Chapter XXXVI.

MORBID ALTERATION OF THE ACTIVITY OF THE UNDERSTANDING.

In abnormal conditions of the memory, which furnishes the elements for the activity of the understanding (p. 21), the latter is also morbidly affected. As with memory so also with understanding increased and diminished capacity may be distinguished.

When the ideational process is facilitated, there is more ready material for the activity of the understanding. In maniacal excitement of moderate degree, therefore, the capacity of understanding is enhanced (Ch. 8, pp. 19-20; pp. 36, 61, 62). It is generally known that moderate excitement sometimes improves the intellectual faculties. Some people seek a little excitement when they have to perform a difficult mental task; they drink some wine or strong coffee or smoke a little. These stimulants produce a slight excitement which renders thinking more easy by facilitating the association. Patients in maniacal excitement are quicker at repartee, more witty, and draw conclusions from their obser-

vations with more ease than usually. But when the maniacal excitement is great, the understanding is impaired, owing to "flight of ideas" (pp. 36, 42).

Sometimes increased capacity of understanding is merely apparent, as in the hypermnesia of the idiots (pp. 62-63). These patients may create the impression of being highly intelligent simply by virtue of their faithful memory which enables them to learn quickly and to appropriate ideas and judgments of others more readily than is normally the case.

Far more frequent than the increased is the diminished capacity of understanding. It is observed in the transitory retardation of the ideational process in melancholia. The understanding of melancholic patients is secondarily impaired, being influenced by the difficulty of association. It is laborious for the melancholics to combine sensations and memory images. When the melancholic depression has ceased, the understanding gradually improves (pp. 19-20, 35, 64).

In primary insanity, paranoia, an impairment of understanding, occurs which may be called "want of critique." The patients are unable to gauge, so to say, their observations, to pay attention to the quantitative elements of the understanding. A few examples will suffice. A patient maintained that, owing to his intimate relations to the Bavarian Royal House, he had excellent prospects for the future. Called upon to prove his assertion, he argued as follows: His foot stool had the colors blue and white; the colors of the Bavarian Royal House were also blue and white, therefore he belonged to the Royal House. The facts are unquestionably correct, but the conclusion drawn from them is anything but rational. Another patient said that he would become governor of

the state, and the only reason he gave for this statement was that his birth fell on a certain date. This "want of critique" is never missing in paranoiacs. They interpret the most casual circumstances to their advantage or disadvantage. This impairment of understanding may be transitory. Should the acute mental malady pass away or come to a standstill, the power of understanding may become normal again.

In some cases where the capacity of understanding appears to be reduced we are dealing merely with delusions. It is necessary to bear this point in mind since real impairment of understanding involves more or less an unfavorable prognosis. When a patient utters an obvious absurdity, for instance, when a rich patient complains about dire poverty, we must not assume at once that his power of understanding has been really reduced. Melancholic patients often express similar nonsensical assertions which are nothing else but delusions, and do not signify an impairment of understanding. That in such instances the capacity of understanding has not suffered, is proved by the fact that the patients are again in full possession of their intelligence when the delusions cease with the discontinuance of their own causative factors, morbid mood and hallucinations (Ch. 25, pp. 53-54).

The capacity of understanding is permanently lowered in idiocy, in secondary dementia, and in general paresis. The greatest diminution of the intellectual faculties is met with in these conditions. Persons magnificently gifted intellectually may become so stupid that they do not recognize their nearest relatives, are unable to tell their name or their age, and so on.

In forensic respect laymen ascribe too much impor-

tance to the faculty of understanding. They consider a crime punishable, if the criminal has acted consciously and intelligently. Now, insane criminals report that in committing a wrong act they were in full possession of their consciousness and understood very well the criminal bearing of their action. Yet they performed it, induced by a delusion, for instance, by the delusion of being persecuted. Society ought not to inflict punishment in such cases. For it ought not to inquire whether or not a criminal has acted intelligently, but whether he has acted in a state of unconsciousness or such other derangement of the mental faculties in which freedom of the will could be excluded.

SECTION III.

PATHOLOGY OF THE ACTIVITY OF THE WILL

Chapter XXXVII.

INCREASE AND DECREASE OF THE FREQUENCY OF VOLITIONAL MANIFESTATIONS.

The activity of the will has a positive and a negative side. For will is the capability of reenforcing motor images to such an extent that movements ensue, and on the other hand of weakening motor images so that movements for which an incentive is present are suppressed.

Morbid alteration of the activity of the will is a very frequent, diagnostically important symptom. It is met with in mild and in grave forms of mental disease. A common symptom of psychasthenia is the want of choice or initiative, aboulia, paralysis of the will. The patients are unable to accomplish the plainest actions, they vacillate and hesitate and cannot come to a decision.

In graver mental diseases disturbance of the activity of the will becomes most conspicuous through unusual frequency of the volitional acts. It may be abnormally increased or abnormally diminished, the patient being compelled to act according to his condition. While the sane person has the choice of performing few volitional acts or many, the patient in whom the frequency of volitional manifestations is abnormally increased cannot re-

duce it, and conversely, when it is abnormally diminished, the patient is unable to carry out many movements.

Increased volitional activity is a salient symptom of maniacal excitement. The movements of the patients are rapid. They speak quickly. In conversation one hardly succeeds to make them stick to one subject. They are extremely restless. They cannot sit quietly for a moment, now they do this, now that. When they are isolated, they tug at their clothes, tear and tatter them, pluck and twist their hair, and perform all kinds of manipulations. The patients cannot behave differently; we may say they are under an irresistible impulse for movement.

The patient with diminished frequency of volitional manifestations, hypoboulia, sits quietly and hardly stirs. In extreme cases the patients are unable to take nourishment or to swallow food introduced into their mouths, and even normal reflex movements may remain in abeyance. Such a reduction of the volitional processes is seen in stupor (Ch. 72, p. 159). A more moderate suppression of the activity of the will belongs to the symptoms of melancholia. The patients remain sitting on one spot for hours. They make no effort to go to bed at night, to undress themselves, or to get up in the morning. They stay in bed for days and weeks, not leaving it even after having soiled it. They are extremely reticent. A conversation can be carried on with them only with great difficulty, at most they answer yes or no to some questions. An exact description of what is ailing them cannot be obtained from them. They speak with a low voice and slowly, they walk hesitatingly and halt frequently. This diminution of the activity of the will is transitory, ceasing with the disapperance of the melancholic depression.

The frequency of the volitional manifestations is permanently reduced in some cases of secondary dementia. Some demented patients are so apathetic that they remain motionless on one spot for so long a time that their extremities become swollen. They may be unable to eat and drink, to dress and undress themselves, etc. This lethargic condition stays with such patients throughout their lives.

Chapter XXXVIII.

TICS, STEREOTYPY.

Among the disturbances of volition are to be included certain abnormal motor phenomena not infrequently observed in mental diseases.

The *tics* are curious gestures and motions, such as twitching of muscle groups, grimacing, licking the palate, clucking with the tongue, snuffling, throwing head and limbs in various positions, etc. These sudden incoordinate movements are sometimes responses to external stimuli. Usually, however, they represent the rigid remains of habitual actions and movements, ensuing automatically or not controlled by the will (Kraepelin).

Similar to the tics are the stereotyped movements. Normally every impulse ceases when its aim has been reached. Another impulse enters the field of consciousness only to be supplanted, after attainment of its end, by a new impulse. Thus complex actions are accomplished by one impulse replacing its predecessor when the latter's part of the action has been achieved. This normal harmony of the common impulses may be disturbed. *Stereotypy* is the morbid persistence of a motor

impulse causing the patient to persevere in certain attitudes for a long time or to repeat certain movements over and over again. Stereotypy of attitude is designated as *akinetic,* that of movement as *kinetic.*

Patients showing akinetic stereotypy keep up certain postures of body and limbs for any length of time, even though they may be extremely uncomfortable. Some patients kneel for hours and days on a hard floor, others lie in bed with extended head and curled limbs, the body being so rigid that it can be lifted by one limb. In stereotyped attitudes of the facial muscles there is a continued distortion of the features. The face assumes a mask-like appearance, the eyes are staring without the slightest movement of the lids, or else the lids are tightly closed, the lips are protruded forming a snout ("snouting cramp"), etc.

In kinetic stereotypy the patients perform certain acts innumerable times, such as rocking, hopping, jumping, rapping rhythmically, pacing up and down the room in the same line, etc.

Frequently the patients exhibit with their stereotyped movements a certain affectation—*mannerism.* They walk in a solemn attitude, describing circles or other lines. Mannerism is manifested especially in stereotypy of speech. The patients use stilted language and speak in an affected manner, e. g., lisp, speak in a falsetto voice, weep after a certain melody, etc.

Verbigeration is the constant repetition of senseless syllables, words, and phrases. It occurs not only in oral, but also in written language. In the writing of the patient a page may be found containing nothing else but the same word or phrase written over and over again.

Chapter XXXIX.

INTERFERENCE, DERAILMENT OF THE WILL.

In stereotypy many actions never lead to a goal because of the persistence of one impulse which precludes other impulses pertaining to the actions. There is, however, another disturbance of volition in which the goal is finally reached, but by a long roundabout way. Fortuitous impulses arise, interfering with those on which the intended act depends, and delay its accomplishment. The latter comes about after the interpolation of superfluous operations which appear as embellishments of the intended act (Kraepelin). The patient puts his garment on inside out, walks with short steps, swings the chair in the air before sitting down, crosses his arms when shaking hands, makes various manipulations with the spoon in eating, drinks water with little sips, etc.

From this *interference* of fortuitous impulses with the main impulses there is a gradual transition to that disturbance of the will in which the goal of the intended act is not reached at all because the incidental impulses divert the patient in a different direction—*derailment of the will.* He stands up to walk into another room, but trips along, dances about, and sits down again. He starts to drink a glass of water, but turns it upside down and puts it on the table. His countenance assumes an attitude of weeping and tears fill his eyes, and then his face becomes suffused with smiles—*paramimia.*

Chapter XL.

HYPERSUGGESTIBILITY, NEGATIVISM.

It may be regarded as a disturbance of the negative side of the will (p. 77) when actions follow too readily upon inadequate stimuli. Such patients lack the will power to disregard incentives too trivial to call forth responses in normal persons. They are possessed by a *hypersuggestibility* which causes them to respond to any accidental influence. The perception of a certain movement is for them a sufficient stimulus to make this movement. They wrinkle the forehead, whistle, jump, when they see others do so—*automatism of imitation, echopraxia.* Sometimes they repeat what one says in their presence, or interpolate frequently in their talk irrelevant words and phrases which they have accidentally heard—echolalia. Hypersuggestibility is a characteristic feature of hypnotism. A command from the hypnotizer is sufficient incitement for his subject to perform all kinds of senseless actions—*automatism of command.*

Hypersuggestibility is observed in various mental disorders. In catalepsy the will power is so weak that the limbs of the patient can be put in any position and, in spite of great discomfort, remain in that position until one changes it, or until they drop owing to complete exhaustion of their muscles. The peculiar rigidity of the muscles in these conditions is called *flexibilitas cerea.*

The disturbance of volition, called *negativism,* and in its manifestations almost the contrary of hypersuggestibility, consists in an exaggerated inaccessibility to any external influence. The patient offers resistance to the requirements of environment and circumstances, refuses to fulfill the most reasonable demands, and even

does just the opposite of what he is requested to do. He does not respond to a greeting and recoils when approached even in the most friendly way. He withdraws his arm when the hand is offered him in greeting, presses his teeth together when asked to show his tongue. Towards all questions he remains mute—*mutism,* or brings forward entirely irrelevant utterances—*paralogia, "Vorbeireden."* He does not heed even his physical needs, refusing to eat or drink, or to evacuate bladder and rectum, especially when exhorted to do so.

Chapter XLI.

MORBID ALTERATION OF THE ENERGY.

Energy is displayed in two ways, in the application of great muscular power while acting, and in persistent and purposeful action. For the sake of brevity the first form of energy may be called energy of force, the second energy of persistence. Both forms of energy may show morbid alteration, most frequently, however, only one is changed. Some patients manifest an increase of one form and a decrease of the other.

Increase of the energy of force is met with in maniacal excitement. The maniacs speak loudly, as though their listeners were hard of hearing. When their attention is called to their loud speech, they lower their voice for a while, but soon resume their former powerful tone. Their step is firm, their grasp forceful. In short, everywhere they apply considerably more power and strength than is required for the attainment of the purpose. Their performances are sometimes incredible.

They bend iron bars, rend strait-jackets, break massive furniture. Nothing seems to be too firm for them. Some have maintained that the muscular power of maniacs is actually increased. But this is not the case. They merely apply that amount of force which the sane person would use only in the highest distress and danger. The maniacs perform such astonishing deeds because they are inconsiderate of their health. By instinct the sane person avoids applying more power than is just necessary to accomplish a certain end. He thus reserves his strength and wards off the harm which the abuse of muscular power entails. Maniacs lack this fine instinct and go, therefore, far beyond the required measure of power in using their muscles.

Paretics in maniacal excitement behave in a similar manner, but do not possess the same dexterity and elasticity as other maniacs. Their movements do not lack coarse muscular power, but fail to show skilfulness and finer coordination.

The abuse of muscular power shows itself also in unusually long duration of an action. In this respect astonishing examples of great energy are observed in maniacs. They walk up and down the room for days and weeks, they talk incessantly in a very loud tone of voice for weeks and even months.

Diminution of the energy of force is met with in melancholic patients. Their grasp is weak, they speak with a low, feeble voice, they walk slowly and with infirm step. In an emotional attack of fear, however, they may display great muscular strength (pp. 33, 34). Moderate reduction of the energy of force is also seen in demented patients. The maximum lowering of this form of energy is observed in stupor. All that stuporous

patients can still accomplish by muscular power is to stand quietly as if rooted to the spot, motionless for hours.

As to purposeful and persistent action, the energy is increased in paranoiacs. With greatest consideration and perseverance they pursue a certain design. Induced by delusions, for instance by the delusion that somebody wants to poison them, they steadfastly decline to take nourishment. They may be so consistent in their refusal of food that they would actually die of starvation if artificial feeding were not resorted to. Paranoiacs influenced by delusions perform actions which sane persons would never be capable of. In this category belong horrible self-mutilations or self-crucifixion. Great persistence is shown by paranoiacs in carrying out plans of flights. With finesse they manage to procure a piece of iron, make a sort of file out of it, and saw through the window bars. Day after day they file a little at a bar until it finally yields. Increased energy is also seen in the plans which patients contrive against the lives of those who restrict their freedom, or in the manner in which they accomplish self-destruction. If all instruments to commit suicide have been removed, they kill themselves by running head forward against a wall, a feat for which incredible energy is required. Some patients also show great energy in enduring hardships, as extreme cold or heat.

Increased energy of persistence similar to that of paranoiacs is sometimes observed in idiots.

Enhancement of the energy of persistence is much more frequent in psychoses than increased energy of force. The latter sometimes exists without the former. This is especially the case in maniacal excitement. The

stronger the agitation of the patient, the less is he able to pursue a purpose. Owing to "flight of ideas" the maniac is unable to carry out an intention completely, being easily diverted in another direction. To this quality is due the *"tractability"* of the maniacs. By taking advantage of it a raging maniac may be easily subdued, while otherwise the help of several attendants would be required to manage him. Physicians would do well to bear this point in mind in the handling of maniacal patients.

The energy of persistence is diminished in secondary dementia. The patients cannot accomplish anything they desire, are unable to evade a danger when brought face to face with it.

In patients mentally deficient since birth or early childhood increase as well as decrease of the energy of persistence is met with. The plans of idiots vary from day to day, a slight allurement suffices to divert them from their intention. It has been mentioned above that at times they may resemble paranoiacs in exhibiting perseverance.

Chapter XLII.

COMPULSORY ACTIONS.

Compulsory or imperative actions originate from compulsory or imperative ideas (Ch. 35, p. 68) which, increasing considerably in intensity, are converted into imperative impulses. For instance, a patient sees a razor and the idea of cutting his throat with it begins to torment him. This is an imperative idea. Now there may supervene the strong desire to grasp the razor and inflict the injury. This is an imperative impulse. If the pa-

tient accomplishes his morbid desire, he performs a compulsory action.

Patients suffering from compulsory ideas feel that they would be unable to resist executing those acts to which they are instigated by the ideas. When, therefore, they are laboring under a compulsory idea pernicious to themselves or to others, they hide every dangerous instrument and avoid every occasion that would render possible the execution of the imperative action.

Compulsory ideas and actions play an important part in forensic matters, because they frequently include dangers not only to the patients, but also to others. To be exonerated from a penal act a malingerer may allege that he has been under the influence of a compulsory idea while committing the act. But such deception can usually be detected without much difficulty. For the actions of malingerers turn out almost always to their own advantage, while true compulsory actions are usually to no purpose. When a mother having killed her child maintains to have been under the influence of a compulsory idea, there may be the possibility of her seeking gain, as an inheritance, by the death of the child. But closer investigation will make the matter clear. The medical expert, in order to impress the court and obtain recognition for his testimony, must demonstrate how compulsory actions originate and how they are executed. A mother being haunted by an idea detrimental to her child reveals it to others. She implores them not to leave her alone with the child lest she do it harm. If an utterance of the mother to this effect has been established, the judge will become convinced that he is dealing with a true imperative action and will not deem the defendant fully responsible.

Chapter XLIII.

MORBID IMPULSES.

The natural impulses (Ch. 11, p. 26) may be morbidly increased or decreased. Thus maniacs show sometimes increased sexual desire or ravenous appetite. Morbid decrease of a natural impulse expresses itself in a most striking manner through refusal of food, the patient acting against the instinct of self-preservation which is the strongest of all natural impulses.

Some writers have advanced the opinion that there is an impulse for murder—*phonomania**, or for theft—*kleptomania,* etc., in individuals otherwise entirely normal. But this view is erroneous. For whenever individuals display remarkable tendencies to theft or murder

* There is, as far as the writer has been able to ascertain, no medico-legal term for "impulse for murder," derived from purely Greek roots in a manner corresponding exactly with the Greek designations of other morbid propensities, such as morbid propensity for theft, *kleptomania;* for incendiarism, *pyromania;* morbid sexual desire (in women), *nymphomania,* etc. These derivations furnish directly short, convenient terms denoting the person affected with those propensities, as *kleptomaniac,* one afflicted with the propensity for theft, etc. *Homicidal mania,* as a medico-legal term, with its half Latin, half Greek basis, sounds rather barbaric to a philologically trained ear, and is inconvenient because, unlike the terms for other morbid propensities, it consists of two words. The writer has, therefore, coined the word *phonomania,* from the Greek *ὁ φόνος,* the murder, homicide. This gives at once the convenient expression *phonomaniac,* one bent on murder.

No less an authority on medical terminology derived from the Greek than Dr. Achilles Rose has approved of the coinage of the word, and has refuted the writer's own objection that phonomania (*φονομανία*) written with Latin characters, may also mean "mania for voice" (*φωνομανία,* from *ἡ φωνή,* the voice), with the remark that "a confounding with *φωνομανία* is excluded because something like this does not exist."

or other outrages, we can, on closer investigation, make out delusions underlying such impulses. An impulse to steal, for instance, is observed in paretics; they regard everything as their own and try to appropriate it (p. 255). The assumption of isolated impulses is to be emphatically rejected. Otherwise the old doctrine of monomanias, fortunately overthrown and abandoned, would be re-established.

Perversities of the natural impulses are quite frequent. Sexual perversities are the most common and best known. Other perversities are less known. Patients lacking the feeling of disgust may satisfy their alimentive impulse in a perverse manner (Ch. 19, p. 38).

SECTION IV.

PATHOLOGY OF CONSCIOUSNESS.

Chapter XLIV.

DISTURBANCE OF SLEEP, SOMNAMBULISM, HYPNOTISM.

Sleep occurs periodically and is characterized by great reduction of consciousness. Normally falling asleep and awaking require only a comparatively short time, and after awaking full consciousness returns readily and quickly. These features of sleep may be altered in pathological conditions. There are patients who gain their sleep slowly and with difficulty. Other patients, on the contrary, make all efforts to remain awake and yet cannot help falling asleep even while standing or walking or on horseback. Consciousness is reduced in some patients much less than is normally the case, and after awaking these patients do not regain full consciousness for a long time. In this semiconscious state they perform complicated actions—automatism. Cases are reported where coachmen have arisen from bed in the dead of night, have led the horses out of the stable, have harnessed them, and have driven to distant places, all this in a semiconscious state. Such conditions occur in individuals who are toiling all day long.

A sort of half-sleep is the so-called *somnambulism,*

sleep-walking. At night the patients arise in their sleep and, without regaining full consciousness, accomplish acts which are very remarkable. They may move about unfalteringly at a giddy height on a narrow board. Laymen see in such accomplishments something mysterious. But there is no mystery therein. The sleep-walkers can accomplish such feats because they are not aware of their danger and are, therefore, not seized with dizziness as would a waking person under similar circumstances. Indeed, there is nothing out of the ordinary in walking over a narrow board from one roof of a house to that of another. No broader path is necessary for a similar walk on the ground. The dizziness produced by the great height makes the passage over the narrow board well-nigh impossible to a person awake. When the sleep-walker is awakened, he is put into a critical position. For he becomes conscious of his extraordinary and precarious condition and is, therefore, liable to meet with a fatal accident.

Related to somnambulism is hypnotism, which represents a sleep produced by suggestion, either by the suggestion of others or by autosuggestion. Its most remarkable feature is the hypersuggestibility of the hypnotized person, enabling the hypnotizer to keep up a spiritual communication with his subject. Complicated acts may be performed by the hypnotized person in this state of unconsciousness at the command of the hypnotizer—*automatism of command.*

Chapter XLV.

DOUBLE CONSCIOUSNESS, STATES OF CLOUDED CONSCIOUSNESS IN EPILEPSY AND HYSTERIA.

The existence of a so-called double consciousness has been claimed by some writers. According to their assertion there are individuals who periodically fall into a state of impaired or altered consciousness during which they perform certain actions. After awaking from such a state they do not remember anything that has transpired during the period. This alone would not be very strange, for something similar occurs also in epileptics. But what is remarkable is that events which have taken place during these spells can be recollected only in subsequent spells, but not in the intervals. The same holds good conversely of the intervals. The individual is possessed, as it were, of two consciousnesses. Each of them exists at a different time and has a memory for itself, but not for its fellow, so that the individual is able to recollect events which have occurred in the state of one consciousness, only in a repeated state of the same consciousness. But all the reports of this nature which have been adduced to confirm the theory, have not been convincing.

In epilepsy states of clouded consciousness occur which have been called the *psychic equivalents* of the epileptic attacks. They have been explained in the following way: Epileptics are sometimes subject to spells in which the motor sphere is not affected and only their consciousness undergoes a change, while the ordinary, completely developed attacks consist in both convulsions and loss of consciousness (pp. 243-244). In these semi-conscious states the epileptics may commit dangerous

acts. The psychic equivalents are met with especially in traumatic epilepsy coming on after the age of 20 years. Although consciousness is not entirely lost in the psychic equivalents, the patients do not recognize their surroundings and have afterwards a gap of memory for the whole time the spell has lasted.

Similarly hysterical patients are subject to spells of disturbed consciousness.

Chapter XLVI.

DISTURBANCE OF CONSCIOUSNESS IN GENERAL PARESIS AND IN DELIRIA.

Disturbance of consciousness is quite frequent in the course of general paresis. The patients are seized with attacks either of apoplectiform or of epileptiform character. In the first case they suddenly fall to the ground and lose consciousness, creating the impression that a cerebral hemorrhage has taken place. But this is usually not the case. For, in the first place, the attack is evanescent, the patients usually recovering within a very short time. Secondly, in case of death a hemorrhage cannot be demonstrated in the brain at the autopsy. The epileptiform attacks of the paretics are characterized by loss of consciousness associated with convulsions in a manner similar to the attacks of the epileptics.

Consciousness is disturbed in delirious states. These are generally of toxic origin, as the deliria in the course of the acute infectious diseases, in which they are caused by toxines, and the deliria of drug poison-

ing, as in morphine, atropine, cocaine poisoning and in chronic alcoholism.

Chapter XLVII.

DISTURBANCE OF SELF-CONSCIOUSNESS.

Disturbance of self-consciousness is frequently met with in many psychoses. Self-consciousness has been defined as the individual's judgment about his own personality whereby he recognizes his relation to the external world (p. 28). When, therefore, insane patients, due to a morbid affective state or to delusions, overestimate or underestimate themselves, as is the case with maniacs, melancholics, paranoiacs, etc., they are affected with impairment of self-consciousness.

When patients fail to recognize their relation to the external world, especially when they lack the proper comprehension of time and space, we speak of *disorientation.* Disorientation may be due to defects of memory and judgment, to hallucinations, and to delusions.

SECTION V.

SOMATIC DISTURBANCES IN THE INSANE.

Remark. In all exactness mental disorders are somatic disturbances. For ultimately they are due to some pathological process going on in the brain, an organ of the body. But in a more restricted sense somatic disturbances are taken to be those physical anomalies which have no direct relation to the psychical functions of the brain, and yet are frequently met with in patients suffering from mental diseases.

Chapter XLVIII.

DISTURBANCE OF SLEEP AND OF THE GENERAL NUTRITION, SITOPHOBIA.

Sleep, as has been shown before (p. 90), is frequently impaired in psychoses. Insomnia is present in the beginning of almost every acute mental malady. The sleep of some patients lacks the refreshing character of the sleep of the sane, and is reduced in intensity and duration. On the other hand, there are instances in which the sleep of the insane lasts much longer than the sleep of healthy individuals, so that the patients are for days and weeks in a continual state of somnolence. In some patients this is due to hemorrhages in the dura mater (pachymeningitis haemorrhagica). The blood extravasate exerts a pressure on the cerebral cortex, thus producing a constant state of drowziness. At the autopsy rust-colored membranes of considerable thickness are found on the brain.

The general nutrition of the insane is very often impaired. With the onset of a psychosis the bodily

weight of the patient decreases to rise again with the beginning of convalescence or of the terminal incurable stage. In some patients the hair becomes gray. This canities is probably due to neurotic influences. It is of common repute that care and worry render the hair gray. When the patients recover, the hair may assume its original color. The nutrition of the skin is sometimes reduced as manifested by dryness, diminished elasticity, and scaling of the epidermis. The nails become discolored, thinner, and show grooves. The number of the latter has been taken by some as an indication of the number of attacks a patient has passed through.

The impaired nutritive state of the insane is frequently due to *sitophobia*. Some patients have a horror of food and refuse it for so long a time that they may actually die of starvation. Melancholics reject food, dominated by the delusion of not being worthy of nourishment. Paranoiacs decline to eat because of gustatory hallucinations or because of the delusion that their food contains poison. Other patients refuse food because they have noticed that their anxiety and fear increase when their stomach is filled. Hypochondriacal patients imagine that they have no stomach, that the food goes directly into the abdominal cavity, and try to avoid this danger by abstaining from eating. Other patients try to carry out suicidal plans by refusal of food. Finally stuporous and some demented patients take no nourishment for want of any feeling of hunger or because they are unable to carry out the movements necessary for taking food.

We may mention in passing the impairment of the nutritive state due to overfeeding, found chiefly in various dementias.

Chapter XLIX.

MOTOR DISTURBANCES.

Motor disturbances are not infrequent in psychoses. They are of great diagnostic value. The condition of the pupils furnishes significant hints. In examining the pupils we must observe whether they are large or narrow, equal or unequal, and whether they react to light promptly, sluggishly, or not at all. A difference in size of the pupils without any other symptom does not reveal which of the two is the affected pupil. If one pupil is remarkably narrow or remarkably wide, we may be inclined to consider this the abnormal one. In such a case the mobility of the pupils decides; that pupil is less affected which contracts better and more readily when light is thrown into the eye and conversely. The reaction of the pupils is more important than a difference in size. Rigidity of the pupils to light and not to accommodation—Argyle-Robertson pupil—is of ominous significance as it indicates tabes or general paresis.

Disturbance of the innervation of the tongue, occuring in the insane, is recognized chiefly by faulty articulation. Impaired innervation of the facial muscles is seen in paretics. It also contributes to render the articulation defective.

Some insane patients are affected with pareses and paralyses of the extremities. Other patients show an oblique posture of the body, or a defective gait, one leg being dragged along. Closer examination of these patients reveals that they have no true pareses. Their motor irregularities are, therefore, to be considered as a disturbance of the bodily equilibrium.

Disorders of the bladder occur in some psychoses.

It can not be evacuated so that the urine is stowed up to the renal pelvis. This may give rise to an ascending inflammation of bladder, ureters, and kidneys—pyelonephritis.

Chapter L.

DISTURBANCE OF SENSIBILITY.

The occurrence of decubitus in insane patients has been ascribed to tropho-neurotic disorders. But the cause of the decubitus seems to be rather the result of long lasting pressure on the skin. The sane person, while sitting or lying, does not keep up exactly the same posture uninterruptedly for a long time; he turns a litttle from side to side, he shifts his position frequently. In this way the skin does not remain for too long a time under undue pressure. The sane person has a delicate sense of pressure so that even in sleep he becomes aware of it and lessens it by slight changes of position. In the insane this finer feeling is lacking. They remain motionless for many hours and thus gangrene of the skin may be produced. It can easily be proved that tropho-neurotic influences are not the cause of the decubitus of the insane. In almost every case of decubitus long lasting pressure on the skin can be demonstrated, the decubitus is never symmetrical, and the wound, with the proper treatment, heals as readily as in a healthy person. Finally the decubitus can be prevented by protecting the patients against long lasting pressure. The decubitus of the insane is, therefore, not brought about by paralysis of trophic nerves, but is caused by anaesthesia of the skin in consequence of which the patients make no effort

to shun the injurious effect of long lasting pressure on the skin.

Anaesthesia of the skin is frequently met with in paretic patients. They may pierce their skin with a needle without manifesting a feeling of pain. Something similar is observed in hysteria. Owing to this anaesthesia some patients may contract burns, blisters, etc.

Chapter LI.

DISTURBANCE OF THE ACTIVITY OF THE HEART.

Some writers have asserted that the insane are affected with a characteristic disorder of the heart. While normally the pulse curve is "tricrotic," the insane have a "tardy" pulse curve. Normally there is a rapid and immediate decrease of the calibre of the artery after its first distention through the blood wave; in the "pulsus tardus," however, the arterial calibre diminishes gradually after its first dilatation (O. T. B. Wolff). But although the "tardy" pulse is found in the insane so often that we may be tempted to regard it as a pathognomonic sign of insanity, a closer investigation has demonstrated that it is not characteristic of mental disease. The tardy pulse is not caused by paralysis of vasomotor nerves, as has been assumed, but is rather due to weakness of the heart and increased resistance in the circulation at the periphery. The tardy pulse is met with not only in psychoses, but also in other diseases in which these two factors are present.

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PART III.

ETIOLOGY OF INSANITY

Chapter LII.

CLASSIFICATION OF THE CAUSES OF INSANITY.

Insanity—psychosis, alienation—is a disease of the brain, especially of the brain cortex, deranging its mental functions, such as perceiving, feeling, thinking, willing, acting, to such an extent that the patient is unable to adapt himself to his environment.

Many causes have been advanced for insanity, yet its etiology is resting on a very uncertain basis.

The causes of insanity are either predisposing or exciting. Most of them are both, e. g., traumatism. Some causes may be regarded only as predisposing, e. g., heredity. A physical injury may lower the organism's power of resistance. The acquired weakness has the result that at a much later period insanity breaks out in direct consequence of some severe general disease, as typhoid fever. In such a case the trauma is the predisposing, the typhoid fever the exciting cause. On the other hand, a patient whose system has been weakened by some grave disease falls readily a victim of insanity when he receives a serious injury. In this instance the trauma is the exciting cause.

In general it may be stated that anything capable of injuring the general health is also apt to exert an injurious influence on the resistibility and soundness of the central nervous system and in this way may become the cause of insanity.

Chapter LIII.

INFLUENCE OF CIVILIZATION.

Civilization has been considered a predisposing factor of insanity. As a proof for this view has been adduced the observation that in civilized states insanity is more frequent than among uncivilized peoples. But the correctness of this observation is questionable, for it is based on faulty statistics. The number of insane in every thousand inhabitants has been counted—in savage tribes it has been taken as reported by travellers—and found to be lower in savage tribes than in civilized nations. The conclusion has thereupon been made that insanity is rarer among the former than among the latter, and civilization has been assumed to be responsible for this condition. But the argument, striking as it may appear, contains the fallacy that statistics themselves are a product of civilization. The statistical apparatus is very much finer in civilized states than in primitive tribes, and with a better apparatus higher numbers will be found. To establish reliable statistics of the psychoses first of all investigators are needed, capable of recognizing or diagnosing them. Correct statistics depend chiefly upon the skill and accuracy with which the work is done, and in civilized states these means are more easily obtained.

Another proof has been advanced to show that insanity has increased with the growth of civilization. Formerly there were hardly any asylums for the insane, nowadays there are many and all are overcrowded. Hence the number of the insane has become larger. This argument is rather weak. For in those times when there were no insane asylums many cases of insanity did not

come to the knowledge of the authorities. With the bad treatment they obtained from relatives and neighbors, the mortality of the insane was enormous. Compassion was accorded them, but it went only as far as the purse and there it stopped. Nowadays millions are spent for the unfortunates. Moreover, the diagnosis of the psychoses was very little developed and many cases of insanity remained unrecognized on this account. Nowadays there are physicians specially skilled in the diagnosis and treatment of mental disease, and the patients who have not yet lost their free will call upon them and complain about their hallucinations, compulsory ideas, feelings of anxiety and fear, etc., and seek their help.

Further, to demonstrate the influence of civilization upon insanity, the interdependence of psylchoses and suicide has been pointed out. Indeed, most of the suicide cases are of morbid nature. The statistics of suicide are quite exact and reliable. There is hardly any error made in establishing the frequency of suicide, though rarely it is made a cloak for a crime. Now, statistics have shown a decided increase of suicide with the advance of civilization. It may, therefore, be said that the psychoses showing a close relation to suicide have also increased through civilization. This argument is somewhat conclusive.

The effect of civilization upon the frequency of general paresis after syphilitic infection has been investigated by some writers who find that the percentage is increased in civilized lands.

Bearing in mind the preceding considerations we are led to the conclusion that the psychoses have increased with the progress of civilization, with the growth of population and the consequent intensification of the

struggle for existence, and with the enhancement of the propensity for enjoyment and pleasure, due to civilization. But this increase is not as considerable as may appear from statistics and from the records of the insane asylums.

Chapter LIV.

INFLUENCE OF RELIGION.

The question has been raised whether religious creed has any influence on insanity; for in certain localities more insane have been found among the adherents of one creed than among the other inhabitants. But this fact does not justify the general conclusion that it is due to religion as such. When in a community among the Catholics, for instance, there are more insane patients than among the Protestants and Jews, this does not prove that creed as such is the cause. Another factor, which has reference to religious creed only in an indirect way, plays an important part. This factor is marriage between blood-kindred. The children from such marriages are frequently afflicted with nervous diseases, with hysteria, neurasthenia, epilepsy, psychoses. Now, if in a province the adherents of one creed are in considerable minority, many more intermarriages will occur between them than among the members of the other creeds. The consequence will be that they will furnish a comparatively larger number of insane than the rest of the population.

It has been maintained that the Jews have a greater predisposition to insanity than the adherents of other creeds. But from comparative number alone a correct

conclusion cannot be drawn. Other factors, too, have to be considered. It is a fact that the Jewish families are more solicitous for their insane patients than families of other creeds. The peasant families in Europe, for instance, are very indifferent in the care of their sick, especially of their insane relatives, as long as no danger menaces their homes. The Jews, in their honor it must be said, act quite differently. They are more easily convinced by the physician that danger is imminent. They are readily willing to go to great expenses for the sanitary welfare of their own. These factors must not be overlooked. They are of great importance in determining the comparative prevalence of insanity among the Jews. Although it cannot be denied that insanity is comparatively more frequent among them, it does not go as far as has been maintained.

Chapter LV.

HEREDITY.

Heredity represents a very important etiological factor of insanity, predisposition to mental disease being more frequently due to hereditary than to any other causes.

It happens quite often that parents and children or several brothers and sisters are afflicted with insanity. The assumption of a hereditary cause appears to be very much justified in such cases. And indeed, it has long been established that the descendants of the insane acquire mental diseases more readily than the offspring of sane people. Frequently in a family with a history of insanity several members become insane, others neurasthenic, hys-

terical, epileptic, addicted to alcohol, another commits suicide, again another is of an eccentric character, finally one distinguishes himself through extraordinary intellectual gifts. In taking the anamnesis of a patient it is, therefore, necessary to inquire not only after a history of insanity, but also of such abnormal family traits.

Extraordinary intellectual gift, as a sign of hereditary predisposition to insanity, has to be taken cum grano salis. It is going too far to maintain unrestrictedly that the offspring of geniuses are predisposed to insanity. We only may say that one-sided geniuses may transmit hereditary predisposition to insanity. For while in one respect they display extraordinary intellectual capacity, in other respects they are not free from mental defects. In the one-sided geniuses, as it were, a compensatory development of some mental faculties has taken place at the expense of the others. But if a person is descended from a many-sided genius, he is to be congratulated. For he may have inherited precious intellectual gifts and great power of resistance of the central nervous system, since he comes from an ancestor who was endowed with these excellent qualities.

The foregoing remarks may be summarized as follows: Through heredity insanity is not transmitted directly, but only a certain predisposition to mental disease is inherited. Psychopathic predisposition in a family is indicated not only by a history of insanity, but also of neurasthenia, hysteria, epilepsy, drunkenness, suicide, crime, eccentricity, unusual one-sided intellectual giftedness.

A person may have hereditary predisposition to insanity without ever acquiring a psychosis, but he may transmit his psychopathic predisposition to his offspring,

so that mental disease makes its appearance in the third or even in a later generation.

When a person is descended from insane parents, his hereditary predisposition is greater than when the parents were sane and only a grand parent or a great grand parent was afflicted with insanity. When both parents have been insane, the children are more predisposed to mental disease than when only one parent has had a psychosis. Insanity among lineal relations renders the psychopathic predisposition greater than insanity among collateral relations. Hence there is a manifold gradation in the intensity of hereditary predisposition to insanity.

If insanity has occurred among lineal relations, there is a direct family history of insanity, but if only collateral relations have been affected with psychoses, the family history of insanity has been designated as indirect.

A family history of insanity in descending line has also been spoken of. This sounds rather strange, but is to be understood in the following way. When the children become mentally ill, the assumption is made that the parents have transmitted to them a predisposition to insanity, although no direct or indirect cases of psychoses can be traced in the family. Later on a psychosis breaks out in one of the parents and the assumption becomes true. The hereditary predisposition was, therefore, not lacking, but it became manifest in the progenitors later than in the descendants. The anamnesis in the case of the former gives a family history of insanity in descending line.

Not all the children of a family possess the hereditary predisposition in the same degree. Those children have the greatest predisposition whose birth is least

remote from the date of the illness of the parents. If the parents have a family history of insanity, but have never had a psychosis, the children born last have a greater hereditary predisposition than those born first. It is possible that the first born child remains sane all through life, the second shows a manifest predisposition to insanity—which will be treated later—and the third becomes insane in early youth. There is, therefore, a great number of gradual differences in hereditary predisposition to insanity, and this fact is of practical importance.

The number of insane patients who have a family history of insanity is easy to establish. In the insane asylums such a history can be demonstrated in 75 per cent. of the cases. The conclusion has thereupon been made that of 100 people with a family history of insanity 75 acquire psychoses. This conclusion is fallacious. For to determine how many of those giving a family history of insanity become mentally sick, the question has first to be decided how many people in the whole population have such a history. Otherwise the problem can hardly be solved. The investigation of this question is extremely difficult because many families conceal their cases of insanity.

Chapter LVI.

STIGMATA OF HEREDITARY PREDISPOSITION TO INSANITY.

The question has been raised whether hereditary predisposition to insanity can be assumed only in those instances in which cases of insanity, epilepsy, drunken-

ness, etc., have occurred among lineal or collateral relations, or whether also without such data hereditary predisposition can be concluded from physical anomalies. Certain abnormal features of the body, called stigmata, have been found in individuals with a family history of insanity and have been designated as *manifest hereditary predisposition* in contradistinction to *latent hereditary predisposition* ascribed to those cases in which such stigmata are absent.

Some individuals with a history of insanity show deformities of the skull, such as asymmetry or obliquity. The left half of the forehead, for instance, is retracted, and at the same time the left half of the occiput protrudes backwards. This may indicate that the development and growth of the cranium and brain have been disturbed. An eventual autopsy reveals that a cranial suture has not been closed, or that a suture which is normally serrated has remained smooth, etc.

The facial part of the skull also shows developmental disturbances, especially the upper jaw. Sometimes the suture of the palate is not situated in the median line, or the vault of the palate is remarkably flat or remarkably narrow and high. In other cases there is prognathism; normally the upper incisive teeth stand just a little more forward than the lower incisors; in pronounced prognathism, however, the upper incisors protrude so far that a finger can be put between them and the lower ones.

Faulty shape of the external ear, as lack of the helix ("rat's ear") or tragus, rudimentary ear lap, etc., have been brought into relation to hereditary predisposition. Some dispute the connection between the two. But statistics have shown that deviations from the normal con-

figuration of the external ear are found more often in those giving a family history of insanity than in others.

Developmental disturbances of the eyes are also met with in individuals with a family history of insanity, such as formations of clefts in iris and chorioidea—colobomata—excessive hypermetropia indicating insufficient development and growth of the orbita.

Congenital hernias, fissures of scrotum and urethra, hypospadia, clubfoot, etc., have been considered as signs of arrest of development and a manifest hereditary predisposition to insanity has been ascribed to individuals showing these congenital anomalies. But nowadays the view prevails that these deformities may have an external cause and are of little importance.

The abnormal features mentioned before are all physical stigmata. But also mental stigmata have been described. It has been maintained that hereditary predisposition to insanity is indicated by extreme nervous irritability, fickleness, retiring disposition, secretiveness, frequent emotional spells with lack of self-control, etc.

Whether the mental and physical features described above as stigmata have any relation to insanity must be left undecided. Only this one fact remains certain that individuals among whose relations there have been cases of insanity, epilepsy, drunkenness, suicide, etc., are unquestionably predisposed to mental disease. But it is to be borne in mind that one affected with manifest hereditary predisposition and even giving a family history of insanity must not necessarily acquire a psychosis, but, leading a normal quiet life, may always remain sane.

Chapter LVII.

PSYCHICAL INFLUENCES.

Certain influences on the mind are apt to cause insanity. They may be of agreeable or disagreeable nature. Among the latter are to be counted fright, anxiety, worry, care of sustenance, death of a near relative, vexation about having been refused appreciation, about violation of honor, about rejected love, etc. To the agreeable influences belongs joyful surprise through incidents which create an extraordinary situation. Great good fortune has sometimes proved fatal to the sanity of a person, owing to his inability to adapt himself quickly enough to the new conditions into which he has been unexpectedly placed. The resistance of the central nervous system is lowered through all violent agitations. Sometimes a psychosis immediately follows a mental shock.

Mental strain, especially when associated with physical overexertion, has a dangerous effect on the mind. Many soldiers who take part in military expeditions become insane. For the hardships of war consist in great physical as well as mental exertion, in fatigue, worry, anxiety, etc. Officers become victims of insanity in comparatively larger numbers than common soldiers because they have to go through greater mental strain than the latter.

Continued mental work is productive of insanity, especially when stimulants, such as alcohol, tobacco, cocaine, etc., have been used to keep up the mental capacity. In this respect it is of importance to know how long the stimulants have been indulged in. If it can be demonstrated that mental exertion was connected for many years with the habitual use of stimulants, the lat-

ter is also to be counted among the causative factors when a psychosis breaks out.

The question of overburdening the children in the schools may be mentioned at this place, for owing to this factor some children may become mentally sick. It must be admitted that the same tasks are burdensome to some pupils, but easy to others. The mental capacity of the children, therefore, ought to be considered before sending them to a certain school. The statement can justly be made that the overtaxing of some pupils is not to be placed at the door of the schools, but is to be put to the account of the parents who send their children to schools the requirements of which they are unable to fulfill.

The influence of imprisonment upon the mental health belongs to this chapter. When one is deprived of his liberty, especially when he is put in solitary confinement, he begins to suffer mentally. Uneducated prisoners whose funds of knowledge are too meagre to afford them entertainment with their own thoughts, become more readily mentally ill than more intellectual ones. Another factor contributing to produce mental disease in prisoners is the poor state of their general health brought about by the unfavorable conditions prevailing in prisons. The general nutrition is greatly impaired, owing to poor food and to lack of fresh air and light. This shows itself by considerable loss of weight. It requires the indifference and imperturbability of the habitual criminal to take on weight during imprisonment. Confinement before trial may sometimes produce a psychosis. This point is of great importance for the medico-legal expert. The prisoner may have been perfectly sane at the time of committing the crime, while at the trial he is mentally deranged, owing to the preceding confinement.

Chapter LVIII.

INFLUENCE OF INFECTIOUS DISEASES.

A frequent etiological factor of insanity are the infectious diseases, as typhoid fever, scarlatina, cholera, etc. Their effect on the central nervous system is twofold. In the first place they cause acute poisoning through toxines which act on the brain, giving rise to acute mental disturbances in the form of deliria. The latter have formerly been attributed merely to the high temperature. But the rise of temperature alone is not sufficient to explain the so-called fever deliria. For some patients with high temperature are little benumbed, while others with low fever may exhibit strong mental alienation.

Secondly, the infectious diseases have a more permanent weakening effect on the nervous system, so that the patients retain a predisposition to mental disease and thus acquire psychoses at a later period. Just as diphtheria even of slight severity may, months later, give rise to diphtheritic paralyses, so may psychoses appear long after the infectious diseases. The patient may overcome his illness with comparative ease, but as a consequence his nervous system may retain diminished resistibilty to external influences.

Mental disorders occur in early and late stages of lues. In general paresis—and similarly in tabes—the percentage of cases in which there is a history of syphilitic infection is so high that these diseases have come to be regarded as late luetic manifestations. Some, however, have held the view that general paresis and tabes do not represent luetic symptoms, and have given another explanation for the frequent occurrence of these

diseases in syphilitics. They compare the effect of lues on the system to that produced by the acute infectious diseases. As in these so also in lues the resistibility of the system is greatly reduced by toxines and thereby a strong predisposition to nervous diseases is imparted to the patients. The fact that lues can be excluded in a fair percentage of cases seems to justify this view. The latter will hardly agree with the results of recent sero-diagnostic investigations. For some authors maintain that the sero-diagnostic examination of the blood and the cerebro-spinal fluid of paretics shows a positive syphilitic reaction in 100 per cent. of the cases. But since these findings have not yet been fully corroborated, the above view is not untenable.

Chapter LIX.

INFLUENCE OF POISONS.

An etiological factor of insanity is furnished by poisoning with various organic and inorganic substances. In all exactness, the effect of the infectious diseases is also of a poisonous—toxic—character; at least, we cannot explain it in any other way. They might, therefore, as well have been included in this chapter. But while the poisonous substances mentioned here are well known, the toxines of the infectious diseases have not yet been isolated, and their exact nature is still unknown. This is the reason why their influence upon the mind has been discussed separately from other poisons.

Among the organic poisons alcohol, in the form of spirituous liquors, takes the first place in the causation

of insanity. The degree of the alcoholic concentration is important, whiskeys and brandies being more injurious than wine and beer, heavy wines and beers more deleterious than light ones. The quality of the alcoholic beverages is also of great moment. The worse the brand of the liquor, the more impurities it contains, as the fusel oils, and the more harmful it is.

Alcohol has first an acute effect on the mind. In a strict sense, the alcohol intoxication represents an acute psychosis. More manifold are the psychopathic consequences of chronic abuse of alcohol. The chronic alcoholic may unexpectedly become insane with the clinical picture of delirium tremens when he is deprived of his habitual stimulant. The deprivation from the alcohol occurs when a drunkard is arrested and put into prison. Delirium tremens may break out, owing to the lack of the stimulant. The prison physician ought, therefore, to see to it that alcoholics just made prisoners receive a certain amount of alcohol. Another occasion in which the alcohol is suddenly taken away from drunkards is a physical illness. When they are brought into the hospital, and they themselves are not even able to ask for alcohol, they may be seized with delirium tremens over night.

Alcoholics are predisposed to many diseases and readily become victims of any injurious influences. Traumas produce mental disturbances in inebriates more frequently than in temperate people. When deprived of their liberty, drunkards succumb to the deleterious influences of prison life much sooner than other prisoners (p. 114).

Mental disorders are brought about through poisoning with hypnotics and other drugs, such as morphine,

opium, chloral hydrate, cocaine, atropine, etc. Chronic morphinism has become quite frequent since the hypodermic injection of morphine has come into use, the medical profession being responsible, to a great extent, for this regrettable fact. Chloral hydrate is often prescribed for insomnia. Like other hypnotics it has the untoward feature that the organism becomes accustomed to it. Larger and larger doses have to be taken by the patient, who passes sleepless nights without the remedy. After long use mental disorders similar to those of chronic morphinism make their appearance. Acute poisoning with cocaine causes agitation, inhibition of speech and of thinking, stupefaction, etc. The chronic abuse of cocaine is productive of mental disorders and marasmus and brings about the fatal end much sooner than chronic morphinism. Atropine in large doses causes deliria, so does iodoform after protracted application. Poisoning with mercury, lead, arsenic also produces mental disturbances. Secale cornutum is to be mentioned here. Flour corrupted with this parasitic fungus brings about a disease similar to general paresis. In provinces where much maize is consumed insanity is quite frequent—pellagra.

Chapter LX.

INFLUENCE OF TRAUMA.

Physical injuries, especially of the skull, play an important role in the etiology of insanity. All violent commotions of the body, brought about by fall or impact, are apt to cause neuroses and psychoses. Frequently even serious injuries remain without any psycho-

pathic after-effects. Many a head has received blows of no little force without the slightest mental disorder appearing shortly after the injury or at a later period. Often a psychosis follows the trauma immediately. Sometimes, however, the effect of a trauma upon the mind does not appear before many years have elapsed. Some disturbances of the general health arise immediately after the injury, such as headache, sleeplessness, great irritability, intolerance of alcohol, etc. A thread of such little ailments is thus spun for a long time until the outbreak of a psychosis.

In trauma as an etiological factor of mental disease, therefore, cause and effect may lie far apart. This holds good also with other influences productive of insanity. This point has formerly not been appreciated sufficiently, and therefore the influence of lues has been overestimated. Many a psychosis has been attributed to lues, although its cause may have been a distant trauma, forgotten long ago, or a severe illness which the patient had been afflicted with at some remote period, and which had diminished the resistibility of his central nervous system.

The harmfulness of a trauma is, as a rule, directly proportionate to the disturbance of consciousness following the trauma, so that the more the consciousness of the patient has been obtunded by the injury, the more the injury is likely to become a cause of insanity. An error may be committed in assuming that an injury has not been succeeded by disturbance of consciousness. A patient who has been unconscious after a violent fall, does often not know anything about it, unless he has heard it from others. Questioned in this regard he, therefore, denies having been unconscious after the fall.

Slight injuries without disturbance of consciousness

may also be of serious consequence to the mental health. Thus an injury of the skull may leave a depressed scar giving rise to psychoses many years later. The irritation of the cerebral cortex through the scar may produce epileptic attacks or their psychic equivalents (pp. 243-244).

PART IV.

COURSE (PROGNOSIS) AND THERAPY OF THE PSYCHOSES

SECTION I.

COURSE (PROGNOSIS) OF THE PSYCHOSES

Chapter LXI.

ONSET OF THE PSYCHOSES.

From the etiological factors described in the preceding part the psychoses develop in two ways. The onset of some mental diseases is surprisingly rapid, in others it is gradual and imperceptible, the cause, as a rule, determining whether it is to be precipitous or insidious.

Rapid onset characterizes the deliria. They appear as soon as intoxication has taken place. Especially delirium acutum (p. 263), the essence of which is yet unexplained, is marked by a very abrupt onset. The deliria of abstinence (p. 259) occurring in alcoholics, morphinists, etc., may also begin suddenly. When the habitual stimulant has been withheld from the alcoholic for a single day, delirium tremens may follow forthwith. The traumatic psychoses very often set in suddenly. A person falls out of the window, loses consciousness, regains it after some time, and in the course of the same day he may manifest symptoms of insanity.

Much more frequent is the slow development of the psychoses. General paresis has a prodromal stage of many months' duration. Other psychoses are preceded by a stage of depression so commonly that some authors

have sought to maintain that every mental malady is ushered in by a preliminary depressive stage. But for this broad statement there is not enough justification, a preliminary depressive stage, although very frequent, being absent in a good many instances.

Sometimes the psychoses develop so slowly and imperceptibly that the relatives of the patient are unable to determine the date of the onset. The beginning of many psychoses is so insidious that it is overlooked, and to laymen it appears as though the attack had commenced all of a sudden. But closer questioning reveals that the patient, while yet sailing along under the flag of health, on occasions displayed evidences of insanity. Often the relatives retrospectively become positive about the beginning of a psychosis. When unmistakable signs of insanity appear, they comprehend and admit that the former, more or less noticeable, changes in the character of the patient already marked the beginning of his mental malady.

In the psychoses with slow development the initial symptoms are frequently mistaken for the cause of the disease. Thus in the beginning of general paresis the patient may exhibit many extravagances. He spends much money, drinks immoderately, and commits other excesses. Through all this he does not arouse the suspicion of neighbors and relatives; for he does not yet talk "nonsense," as laymen would say. The disease then progresses and becomes pronounced, so that the patient is recognized as insane even by laymen. Now the cause of the psychosis is attributed to the former immoderate drinking and to the other excesses. And yet these were already the initial symptoms of the mental malady.

It is necessary to be acquainted with these facts in

order to be able to determine as nearly as possible the beginning of a psychosis. In modern society the life of one man is so intimately bound up with the affairs of other people that the beginning of a psychosis cannot be regarded as something individual and not affecting others. Often great fortunes are at stake, their just distribution depending upon whether or not it can be proved that at a certain time their rightful owners were already suffering from mental disorders. If a person in the beginning of a psychosis has deeded away his property to strangers without the knowledge of his family, the deserving may be deprived of what is their due, unless the time of onset of the mental disease can be established.

Chapter LXII.

DURATION OF THE PSYCHOSES.

The course of the psychoses also shows great variability. There is a rapid and a protracted course, and there are all possible forms intermediary between the two.

The entire course of a psychosis may be included in a single day. Especially the deliria furnish many examples of this kind. In the so-called *mania transitoria* the patient is suddenly seized with a fit of raving madness and is well again on the following day. The whole process usually terminates with the patient falling into a long sleep from which he awakes with little recollection of what has transpired. Great caution must be exercised in terming a psychosis mania transitoria. This diagnosis is so often unjustifiably made that one might

think mania transitoria were a frequent psychosis, which is far from the truth. Malingerers may adduce this disease as a pretext for their misdeeds.

Psychoses of an abrupt onset and rapid course occur in epilepsy. All of a sudden the patient falls into a state of confusion and commits all kinds of excesses. After several hours or on the following day his mind is entirely clear again. The course of such psychic equivalents of the epileptic attacks (pp. 243-244) is not always so exceedingly rapid. Sometimes they last several weeks, but the short duration is more frequent. Something similar is observed in hysteria in which psychoses of two or three days duration occur.

More frequent is the slow course of the mental diseases. In general the psychoses last for months, so that we cannot yet speak of a protracted course in a mental malady of several months' duration.

Some psychoses are characterized by a periodic course. Thus a patient enters the insane asylum with the symptoms of acute mania, leaves the institution after some time apparently cured, and returns after several months or a year in a maniacal condition. One may be inclined to speak of a relapse in such a case; but the experienced alienist will at once think of periodicity of the disease. And indeed, the patient having been dismissed as cured for the second time, comes back into the asylum after another interval. In such an instance we are not dealing with ordinary mania of comparatively favorable prognosis, but with periodic insanity of incurable nature. Usually the mania is repeated until the patient finally passes into a state of secondary dementia (p. 189).

As a rule the periodic course of psychoses is such that maniacal stages alternate with free intervals. In

some instances, however, it shows the circular character, mania alternating with free and melancholic intervals. Psychoses with this cyclic character are also of very unfavorable prognosis (pp. 240-241).

The course of other psychoses is extremely long-lasting and continuous or almost continuous. Some patients remain in the insane asylum for a score of years and longer.

Some psychoses have an irregular course, being marked by exacerbations and remissions of varying duration. Remissions are frequent in general paresis. A common error committed by the inexperienced in regard to general paresis is to declare the patient as cured in a remission. Not enough stress, therefore, can be laid on the fact that in the course of general paresis periods do occur during which the patient appears entirely free from all morbid symptoms. The relatives of the patient are easily misled by such a remission. They argue the patient is so intelligent, amiable, speaks so sensibly, that they cannot help regarding him as entirely well again. He ought to return home. They take the patient away from the asylum, convinced that the psychiatrist has this time made a mistake in giving originally a bad prognosis and in advising extreme caution in the future. But after a few years they bring the patient back into the institution and admit that their medical adviser was right in his statement that the improved condition of the patient was merely a remission. The error of declaring a paretic as sane in a remission happens not only to laymen, but also to physicians. A deficient pupillary reaction, a weakness of the legs, a disturbance of the handwriting, an insignificant impediment of speech, may furnish a hint that the patient is

not entirely cured, but is in a stage of remission. The duration of these remissions is generally only a few months, but sometimes they may continue several years.

Something similar occurs in paranoia. A patient is brought into the asylum suffering from delusions of furtherance and grievance. After some time he ceases speaking about these delusions, and it is hardly possible to recognize whether or not he has abandoned them. His behavior becomes orderly, and he is released from the institution. After a few years he returns with new delusions or the same ones, and it looks as if the disease had started at the point where it had ceased. The duration of such remissions is not always so long; sometimes the disease becomes manifest again after a few months with the appearance of new delusions or the recurrence of the same ones.

Chapter LXIII.

TERMINATION OF THE PSYCHOSES.

The psychoses may terminate in convalescence followed by complete recovery. When the pathological process is nearing its end, the morbid symptoms gradually disappear. The confusion ceases, the delusions are corrected, the restlessness abates, the body weight increases, etc. The convalescence may pass into complete recovery or the psychosis may be repeated. One of the most important means we have at our disposal to determine whether or not recovery has taken place, is the patient's opinion about himself and about those who had taken care of him during his illness. When the patient has recovered, he gains the *"insight into the disease,"*

He recognizes and admits willingly that he was sick, that the measures taken in his case were necessary and aimed at his welfare. He feels and manifests a certain gratitude towards his physician and his attendants.

The "insight into the disease" furnishes the most valuable criterion for recovery. For while the process of mental disease is still active, the patients do not deem themselves sick, but believe to be unworthy, persecuted, nabobs, powerful potentates, protégés of kings, etc. This characteristic sign of complete recovery is especially of great importance since it renders possible the differentiation of a free interval of periodic insanity from actual recovery. In such an interval the patient has the insight into the disease only to a slight degree. He is little impressed with, and underestimates, the importance of his disease, arguing after this manner: "It is true, I have been somewhat excited and feeling ill at ease, but now I am entirely composed and perfectly well, and it is not at all possible that I would fall sick again." And yet the fact that he has gone through the same sickness perhaps half a dozen times, and has held the same opinion after every attack, ought to make him consider the possibility of a return of his illness. No strong intellectual capacity would be required for that thought. But just this lack of proper judgment in regard to his mental health is a sign that there is yet some imperceptible disorder in the mechanism of his psychical functions, although to all appearances they are entirely normal again. The patient has a wrong opinion about himself, due to a disturbance in the affective sphere that still remains after the disappearance of all the other symptoms of mental disease. A morbid feeling of being unfailingly sound is still extant in the patient and pre-

vents the arising of any thought that the condition of his health is apt to change again.

Some patients dismissed as convalescent do not gain the full insight into their disease before an interval of about half a year has elapsed. Then they tell the physician until this moment they did not realize that their mental health was impaired, now they do and at the same time they feel that it has been fully restored; now they are able to appear before him without that feeling of anxiety and fear which up to that very moment they still experienced in his presence.

There are cases, however, in which the patients, though entirely well again in body and apparently also in mind, do never regain the insight into their disease. In such an instance the psychosis has terminated with a certain mental defect. This represents the second form of the termination of the psychoses; the preceding acute mental disease has brought about a permanent impairment of acuity of understanding, of warmth and manifoldness of feeling, of nobility of character, etc. There are numerous gradations and transitions from these slight psychical defects to the mental states comprised in complete dementia.

Fixed delusions (Ch. 30, p. 59) remaining after an acute psychosis indicate that it has terminated in secondary mental weakness. The patient appears normal again, but closer examination shows that he still harbors erroneous ideas on certain subjects. It is impossible to convince the patient of their absurdity, and he is unable to abandon or correct these delusions. The preceding acute mental disorder has left a permanent impairment of the ideational and emotional sphere, finding its expression in these fixed delusions. Although in all other

respects and to all practical purposes the patient's mind may be intact, healing with a mental defect has taken place in such instances.

Very frequently the mental defects remaining after acute psychoses are so considerable and manifold that we cannot at all speak of healing or recovery. In such cases the acute pathological process has resulted in secondary dementia.

Some psychoses terminate in death. This does not refer to those cases in which the exitus lethalis was brought about by a misfortune that could have been prevented, for instance, by intentional suicide of the patient or by a fatal accident. But only those cases are included in this category where death, as it were, follows as a natural consequence of the pathological process. General paresis ends in death, so does delirium acutum.

SECTION II.

THERAPY OF INSANITY

Chapter LXIV.

COMMON RELUCTANCE TO INSTITUTIONAL TREATMENT OF THE INSANE; RESPONSIBILITY OF THE FAMILY PHYSICIAN.

The treatment of the insane has made great progress since the age of superstition when they were regarded as malicious individuals possessed by the evil spirit and eager for crime. They are now universally recognized as unfortunates afflicted with diseases of the brain. This view has become productive of a more humane handling of the insane. Modern psychiatry may be said to date altogether from that time. But even to the present day a very considerable part, if not the majority, of the insane of a country are not in public asylums, but under inadequate private care or at large. For in many families an aversion prevails against committing their insane patients into an asylum, not because they fear bad treatment, but because in a public institution a case of insanity cannot be concealed. To divulge a case of insanity is deemed injurious for social reasons. The importance of hereditary predisposition is not underestimated, and the public knows the danger of marriage into a family with a history of insanity.

Because of this common reluctance to institutional treatment of the insane it devolves upon the family

physician to handle cases of insanity, and he ought, therefore, to be acquainted with their treatment. The relatives of the patient will say to the family physician they have so much confidence in his experience and skill that for their part he may conduct the treatment all alone as long as he feels able to assume the responsibility. The question is then whether and how long he shall take the responsibility upon himself. Evidently a maniac has to be removed to an asylum without much delay. But a harmless patient suffering from secondary feeble-mindedness or an idiot may be treated in his home. To some extent this holds good also with the milder forms of melancholia. Little importance may be attributed to the suicidal utterances of the melancholics in a state of depression. But the danger of suicide is very great when the depression is increased to an emotional spell of anxiety and fear. When such spells occur often, the physician must warn the relatives of the imminent danger of suicide and emphasize that it can be prevented only in an institution. If they still resist commitment to an asylum, he should rather give up the case than take further responsibility. For when a misfortune does occur, he will certainly receive the blame for it and be accused just by those who had assured him of their unlimited confidence and had offered the most emphatic resistance to sending the patient away from the home. The very same people will throw the first stone at the physician and will lay the misfortune at his door, maintaining that he did not insist sufficiently upon removing the patient to an asylum. After relinquishing the case, the physician should, under certain conditions, report it to the proper magistrates so that they may prevent a calamity.

Chapter LXV.

TRANSPORTING INSANE PATIENTS TO THE ASYLUM.

When the relatives of an insane patient have decided to place him into an asylum, the physician must help them with his advice and supervise the transportation. As a rule force has to be used, for the removal from the home must usually be carried out against the will of the patient. Certain conditions are, therefore, to be fulfilled. First of all somebody must be present who has the right to transfer the patient to an asylum against his will. Some patients, even after their recovery, bear a grudge against those who had deprived them of their liberty. They even harass them with legal proceedings on that account. It is, therefore, advisable for the physician to be well informed about the relatives' right to commit the patient to an asylum. There can be no doubt about the right of a husband to place his legally insane wife into an asylum, and conversely. The same right appertains to the parents towards their children under age. But it may be doubted whether brothers and sisters have that right towards each other. With paretics or with patients suffering from secondary dementia it will not be difficult to come to a decision regarding the right of commitment, since their future resentment for restraint of their liberty may be dismissed because of the incurability of the disease.

Frequently when a patient is violent and offers resistance to the removal from home, the request is made by the relatives that no force be used, that the physician should, in some way, lure the patient into the institution without arousing his suspicion. In some instances this

can be accomplished without difficulty, as with paretics in a maniacal stage. But if the patient is intelligent enough to recognize the purpose of the journey, ruse should not be resorted to. For he is likely to find it out, and then he may become violent and perhaps escape. Now, in a case where deception is contraindicated there remains nothing else but to tell the patient openly that he must go to a hospital whether he wants it or not. Before communicating this to him certain measures must be prepared. All dangerous implements must be removed and windows and doors secured so as to render escape impossible. The physician must surround himself with a sufficient number of attendants to prevent any violent act of the patient either against himself or against others.

If necessary, the physician should not hesitate to make use of the strait-jacket during the transport. With this implement two attendants can accomplish the desired end, while otherwise four would hardly suffice. Without the strait-jacket it is sometimes necessary to shackle the patient. This, on one hand, is very disagreeable to the patient and, on the other hand, is not without danger. At the place where the shackles press the skin gangrene may be produced because the patient does not try to avoid the pressure (Ch. 50, p. 98).

The ordinary strait-jacket is a coat reaching down below the hips, closing in the back, and provided with long sleeves to the anterior ends of which are attached strong leather straps. The jacket is put on in the following way: An attendant sticks his left hand into the right sleeve, through its anterior end, and his right hand into the left sleeve, and shoves the sleeves over his arms until the hands come out through the posterior openings.

Now he approaches the patient who is held on both sides, grasps one wrist, and shoves the sleeve over the patient's arm. The same is done with the other wrist and arm. The arms are then crossed and the straps brought together on the back and tied. In this way three attendants are usually able to master any patient even if he resists and struggles. There are patients, however, who can not be put into the strait-jacket even with the greatest of efforts. In such cases there remains nothing else except to apply a general anaesthetic. For after the physician has once resorted to force, he ought not to withdraw under any circumstances without having attained the desired end. Deep narcosis is not necessary. The more the patient struggles, the stronger he inhales the anaesthetic and the sooner he becomes unconscious.

When a violent patient in a strait-jacket is to be brought into the carriage, it is advisable to put a cloak around him to spare the public the disgusting sight of the strait-jacket. In the city the police authorities ought to be informed that a violent insane patient is to be transported somewhere, otherwise when the patient becomes turbulent and vociferous, a tumult may arise and an unfortunate incident occur.

When an insane patient is to be transported to the asylum by rail, he must be brought to the station and into the car before the other traveling public arrives. The railroad administration must be notified beforehand of his transportation. If the patient is violent or has uttered the slightest suicidal intentions, two attendants must guard the windows near him. He must not be permitted to be alone for a moment. At least one female nurse should accompany a female patient.

It is very difficult to master a violent patient who

threatens to make use of a weapon if anyone should approach him. Nothing can be accomplished in such an instance with mere force, but some artifice is to be resorted to. The physician must see to it that some reliable person be in the room with the patient. It will scarcely be the case that he will not permit anyone whatsoever to be near him. While this person tries to occupy the patient's mind, the physician, at a favorable moment, enters the room with several attendants, thus surprising the patient with superior force. Two of the attendants must have been instructed beforehand not to wait for any further orders, but to get at once behind the patient, one at each side. The physician steps in front of the patient and begins to divert his attention. At this moment he is grasped at each arm by the attendants in back of him. Immediately all his pockets are thoroughly searched and all dangerous implements taken away. It is altogether a strict rule not to commence the transport to the asylum of any insane patient without searching him for dangerous instruments.

Even harmless patients, from the time they have found out that they are to be transferred to the insane asylum, must never be left alone for a moment.

During the transport no utterance whatsoever concerning the insane asylum or the treatment should be made in the presence of the patient.

Chapter LXVI.

INSANE ASYLUM.

The objection has been raised against institutional treatment of the insane that their disease may become aggravated when they are surrounded by unfortunates

like themselves and see their pitiable plight, thereby more readily comprehending their own misfortune. This disadvantage has to be put up with as it can hardly be avoided, especially with patients in ordinary financial circumstances. On the other hand, the disadvantage is outweighed by the benefits arising from treatment away from home. As in other nervous diseases so also in psychoses it is best for the patient to be taken away from the conditions and the environment in which he has been living up to that time. This advantage is most easily obtained by removal of the patient into an institution. The chief benefit of asylum treatment, however, consists in the patient being withdrawn from, and protected against, many dangers hardly avoidable while he is under care in his own home, such as refusal of food, attempt at escape or at suicide, etc.

The principles to be followed in the insane asylum must be purely medical, i. e., the insane are to be treated as patients. They must share the benefits that have accrued from the progress of science for all those afflicted with disease. All hygienic requirements must be fulfilled in the asylum. It must have a good situation, good ventilation, good air, good light, good water supply, and good regulation of the temperature of the rooms. Furthermore, there must be different departments in the institution. Aside from the separation into a male and a female division there must be different wards according to the different ways the patients conduct themselves. In one department are placed quiet patients not needing extraordinary watching, in another one patients who are very restless, again in another one patients who do not keep themselves clean, etc. A separate department is to be fitted up for patients who would use any object as a

weapon against themselves and others. Here everything must be clinched and riveted. It must be impossible to move chairs, to upset tables, etc. Further, there must be special wards for patients needing extraordinary watching. Into these wards are put also those patients who have just entered the institution, and whose conduct has first to be determined before bringing them into the wards adapted for them. Moreover, the social circumstances of the patients are to be taken into consideration in establishing an asylum for the insane.

An insane asylum should be constructed to accommodate no more than 500 patients in order that one physician may be able to superintend it, which is a very important point for the successful work of the institution. Since many patients can and ought to be occupied, sufficient gardens must be provided. There are several systems of insane asylums. In the *closed institutions* the various buildings are connected, in the *pavilion system* they are separated, and in the *agricultural institutions* special provisions are made for an agricultural occupation of the patients. The first system is best adapted for the neighborhood of big cities because of the saving of ground and because of the easy frustration of attempts at escape. Even these closed institutions must have enough garden grounds. The pavillon system is appropriate for country sanitaria. It has this disadvantage that the physician cannot easily overlook everything and cannot come unseen into the different departments. The agricultural institutions offer the best advantages with respect to the occupation of the patients and with respect to the prevention of certain diseases so frequent in the closed institutions, as tuberculosis. They are naturally adapted only for the country. If it is possible to erect

several insane asylums in a district, it is advisable to make use of more than one system.

One person, and that a physician, is to be vested with supreme authority in the asylum, all other officials should be subordinate to him. If they are coordinate, a dualism reigns in the institution which cannot fail to be prejudicial.

A reliable staff of nurses is indispensable for an insane asylum. They must be obedient, consciencious, must have entered into hospital service in early years, and must follow their occupation with a certain love and devotion, being content with the disagreeable sides and arduous tasks of the care of the sick. Since stability of the nurses' staff is a great requisite, it should consist only of people who have made the care of the sick their calling in life and, therefore, remain in the asylum permanently. All this can be attained only by giving the nurses ample pecuniary compensation and assurance of a sufficient pension after a faithful service of a number of years. The nurses should receive regular instruction. If after one year's service a nurse proves not to possess the proper qualification for his position, he is to be dismissed.

A staff of competent assistant physicians is very requisite. For every hundred patients there ought to be at least one assistant.

In the treatment of the patients mechanical compulsion is to be restricted to the most desperate cases. Care must be taken that patients with destructive tendencies may not harm themselves, that the institution be provided with clothes difficult to tear, that there be enough space in the wards so that the patients need not lie close to each other, that there be enough room for

isolation and a sufficient number of attendants. Only then the strait-jacket may be dispensed with. Sometimes, however, it is absolutely necessary, as in surgical cases. A violent patient with a fracture of the leg must even be chained to the bed.

The general treatment must be humane. The attending physician should not excite the patient by his visit. In refusing unjustified wishes of the patient he should act in a manner that will not hurt his feelings. He should never make the patient feel his superiority, and should never bear a grudge against a patient for disrespect or ill behavior. To fulfill all this is not at all easy and has to be learned by experience.

Mechanical compulsion in the treatment of insane patients in the past may be excused when one bears in mind the insufficient means then at the disposal of the institutions.

Chapter LXVII.

TREATMENT OF THE INDIVIDUAL SYMPTOMS OF INSANITY.

Morbid Mood. A patient laboring under morbid depression must be left alone. All efforts to cheer him up, to make him participate in entertainments and pleasures are anything but conducive of good. They do not mitigate the depression, but rather augment it (p. 32). If the patient complains about uneasiness and anxiety, a few comforting words may be said to him, but nothing more should be done.

Likewise in morbid exaltation it is entirely wrong to attempt to depress the mood of the patient artificially.

At best an outburst of anger is produced (p. 35). The patient must not be directly contradicted; on the other hand, it is not necessary to yield to all his whims. To refuse the wishes of maniacal patients without direct contradiction the peculiar "tractability" of the maniacs is resorted to with great advantage (pp. 86, 167, 169).

Delusions. The management of delusions is similar to that of morbid mood. Laymen often think they can be overcome without difficulty. When, for instance, a patient wails about the death of a dear friend, who is still living, it is very easy, according to laymen's notions, to do away with this delusion by bringing the friend face to face with the patient. But the delusion will persist nevertheless. The patient will now complain just this is his great misfortune that some scoundrel tries to personify his dear friend. There remains, therefore, nothing else to do but to try to allay somewhat the delusion, e. g., to say to the patient he is sick now, when he will be well again, everything will be in perfect order.

Formerly the attempt was sometimes made to suppress delusions of grandeur forcibly by cold douches and other such harsh measures. But nothing was gained thereby except that the patient now simulated, not daring to give expression to his delusions which he still harbored just as strongly as before.

Morbid Activity of the Will. Some patients carry out so few volitional movements that they are unable even to take food handed to them. Such patients must not be left sitting or lying, motionless for hours and days, but psychical and mechanical stimuli must be employed. Usually little is attained by the former. To admonish a stuporous patient to move about is like telling a person with fractures of both legs to walk. Words

are futile in such cases, but other effective measures must be used, such as massage and passive exercises.

The management of patients controlled by irresistible motor impulses and intent upon destroying everything within reach is very difficult. It is evident that they cannot be permitted to do as they please. Formerly they were restrained mechanically by means of the straitjacket. Nowadays the treatment is not so harsh. In the favorable season of the year they may be permitted to move about in the open air. When the weather is too cold or too hot, or otherwise unfavorable to keep them out of doors, they must be isolated. To preclude tearing of the clothes, they are made of firm material, as English leather, which is also washable. For patients of great strength still stronger material, as sailing canvass, must be used. To prevent the patients from undressing themselves, buttons have been constructed which they can neither open nor tear off. The manufacture of foot-wear adapted for such patients also offers great difficulties.

Refusal of Food. Some patients refuse to take nourishment. If the reason for this is a diminution of the volitional activity to such an extent that the patients are unable to carry out any movement whatsoever, as in stupor, artificial feeding ought not to be deferred very long. It should be begun early and not postponed until the patients are nearly exhausted through starvation. But with melancholics who think themselves unworthy of nourishment, or with patients who imagine their food to be poisoned, artificial feeding may be deferred for some time, especially since by means of certain devices the patients can be induced to take some food. Such patients, without being malingerers, eat in secret when-

ever possible. Melancholics declining to take food on account of delusions of self-depreciation eat something that appears discarded, believing it to be of no use for anyone more worthy of nourishment than they are. They do not take food handed to them in the proper manner, but they consume that which has been left over by others. Eating secretly is, therefore, not incompatible with delusions which entail refusal of food. Patients afraid of poison eat food destined for others. The resistance to taking nourishment may sometimes be overcome by offering to the patients their favorite dishes. There remain, however, some patients who, induced by delusions, would rather starve to death than take food. In such cases artificial feeding should be delayed for a while, but as soon as the slightest symptoms of inanition appear, it must be carried out by means of the stomach tube introduced through the mouth or the nose.

Insomnia. Almost every patient in the initial stage of a psychosis suffers from sleeplessness. It can be combated by drugs, but they are injurious. The assertion may unreservedly be made that recovery from a psychosis ensues so much sooner, the less hypnotics have been used. For this reason insomnia ought not to be treated directly, for a time at least. But when the strength of the patient does not suffice to stand the exhausting effects of sleeplessness, hypnotics are indicated. An effective remedy is chloral hydrate. It should not be given in larger doses than two grams. It must be employed with great caution in the old and in those affected with heart disease. Patients who refuse to take any internal remedy may be given morphine hypodermically. A convenient hypnotic, free from danger, is

paraldehyde which may be given in doses of 5 to 6 grams. Sulfonal is dangerous and of little effect.

Suicide. Special attention must be paid to the suicidal inclinations of the insane. To prevent suicide the windows of the wards must be secured by gratings with interspaces not wider than the smallest diameter of the skull of an adult. Constant watching is necessary. In the night several watchers should alternate. They should be kept under strict supervision by a night watchman's apparatus furnished with all possible safeguards against deception.

In suicidal attempts cutting and stabbing instruments are not the most dangerous. Much more to be feared is the attempt at hanging. It can be carried out on any door latch, on any nail in the wall. A noose is easily made out of a towel or handkerchief. Death follows quite rapidly. After cutting or stabbing, however, the patients can often be saved even after a considerable interval. Very dangerous is also the attempt at strangulation, the patient constricting his throat with a cloth. The rattling noise in the respiratory tract, commencing with the ensuing dyspnoea, may be heard and attract the attention of the attendants. Sometimes the patient's life is saved by a relaxing of the pressure of the cloth when his strength begins to fail. He may elude this by making a knot and pulling it through a loop whereby a loosening of the improvised string is prevented. He then loses consciousness after a short time and death follows rapidly. All these suicidal attempts can be frustrated only by constant and careful watching.

Deficient Deglutition. Especially in paretics deglutition is often impaired. They cannot swallow the food properly and aspirate something of it into the larynx

or trachea. Such an incident requires immediate help because of the danger of suffocation. The physician hurriedly called to a case of foreign body in the respiratory tract may find the patient already unconscious, cyanotic, pulseless. He must at once examine the air passages. As soon as he succeeds to remove the foreign body, life may return. There is hope of saving the patient's life as long as he is still cyanotic, and the lower jaw is still firmly pressed against the upper one. The greater the difficulty of removing the jaws from one another, the more there is prospect of restoring the life of the patient. For shortly before death the jaws are tightly closed. Soon after death they become relaxed. Much later, when rigor mortis has set in, the maxillary muscles become again contracted. The physician must force apart the jaws and reach down into the air passages as far as the vocal cords. Sometimes the foreign body remains sticking in the oesophagus. If this be the case, the foreign body must be pushed down further into the stomach. Besides, the danger caused by a foreign body in the oesophagus is not very great. At any rate the physician must preserve his presence of mind and act decidedly and quickly.

A patient may swallow something that injures the oesophagus, for instance, a rough stone. As a consequence food is regurgitated, although the foreign body is not wedged any more in the oesophagus. An oesophageal sound must be passed. If no resistance is encountered, the regurgitation, sometimes persisting for several days, is merely caused by the wound in the oesophageal mucous membrane.

Wounds of the Skin. Phlegmons, erysipelas, decubitus, etc., must be prevented by paying careful attention

to the slightest lesions of the skin, especially in such patients who are inclined to injure themselves.

Chapter LXVIII.

HYPNOTISM IN THE TREATMENT OF INSANITY.

Hypnotism is founded on suggestion, i. e., on the possibility of introducing ideas from an outer source into the train of thoughts of the hypnotizable subject. Suggestion plays an important part in many affairs. The art of persuasion is based on suggestion. In instruction and education suggestion is made use of in manifold ways. Since hypnotism has been recognized to depend merely on suggestion, the former artifices of producing the hypnotic sleep, as by stroking or by making the subject stare unremittingly at a brilliant object, etc., have been abandoned. The hypnotic sleep can be brought about simply by telling the individual to be hypnotized that he will soon fall asleep. The hypnotic sleep, no matter in which way produced, renders suggestion still more easy. Great hopes had been built upon hypnotism in the treatment of the insane. Unfortunately the results of hypnotic treatment of insanity have proved disappointing. Delusions, feelings of anxiety, depression, refusal of food, morbid volitional activity, etc., are not influenced by hypnotism.

PART V

SPECIAL PATHOLOGY OF INSANITY

Chapter LXIX.

CLASSIFICATION OF THE PSYCHOSES.

In the classification of the psychoses pathologic anatomy does not offer any clue to be followed. For very little is known of the pathologic anatomy of insanity. To arrange the manifold and intricate pictures under which the psychoses present themselves into a somewhat practicable system only the symptoms and etiology of insanity are available. With regard to the symptoms two classes of clinical entities of insanity may be distinguished.

I. Mental disease commencing after the early stages of the general development of the organism, the patient having been sound in foetal life and in early childhhod.

II. Mental diseases dating from earliest childhood and attributable to arrest of development or to other disturbances in foetal life or in early childhood.

To the first class belong the following clinical pictures:

1. Melancholia and Stupor.
2. Mania.
3. Hallucinatory Insanity.
4. Primary Insanity or Paranoia.
5. Secondary Insanity.
6. Delirium.
7. Secondary Dementia, Secondary Feebleminded-ness.

8. Primary Mental Weakness, Primary Curable Dementia.

The second class comprises the following psychoses:

1. Idiocy.
2. Cretinism.

Idiocy appears in severe and mild forms. The latter may be designated as imbecility.

Certain forms of one-sided mental weakness are included in imbecility:

a. Moral Insanity, Moral Idiocy.
b. Querulous Insanity, Morbid Litigiousness.
c. Originary Insanity.
d. Contrary Sexual Feeling.

Considering the insane diatheses and etiology we may distinguish the following forms of insanity:

1. Hereditary Predisposition to Insanity, Hereditary Insanity,
2. Hysterical Insanity.
3. Phrenasthenia, Psychasthenia,
4. Dementia Praecox,
5. Recurrent Insanity, Manic-depressive Insanity.
6. Epileptic Insanity,
7. Insanity of General Paresis,
8. Toxic Insanity, Alcoholic Insanity,
9. Traumatic Insanity,
10. Insanity in Organic Brain Diseases.
11. Delirium Acutum.
12. Senile Insanity.

There are many other classifications of insanity, but no one has received general acceptance.

Chapter LXX.

PSYCHOSES AND AGE OF PATIENT.

Certain psychoses occur most frequently at a certain period of life. Cretinism and idiocy are observed chiefly in childhood. Being permanent states they persist also in adult life. Phrenasthenia, hysterical insanity, dementia praecox, recurrent insanity prevail at the periods of puberty and adolescence. In the age of maturity all forms of insanity are met with, particularly paranoia, general paresis, traumatic and toxic insanities. In and after the climacterium melancholia is very frequent, and senile insanity belongs to old age.

SECTION I.

MENTAL DISEASES COMMENCING AFTER THE EARLY STAGES OF THE GENERAL DEVELOPMENT OF THE ORGANISM

Chapter LXXI.

MELANCHOLIA.

Symptom-complex. A characteristic complex of symptoms constitutes the clinical picture of melancholia which is based on different causes, as intoxication, general paresis, senility, etc. Its chief features are the following: The mood is morbidly depressed. The ideational process is retarded, the memory weakened. The patient labors under delusions of self-depreciation (p. 57), and has sometimes hallucinations and illusions. The frequency of the volitional manifestations is diminished, the energy lessened. The vegetative processes are reduced. Sometimes the patient is suddenly seized with attacks of anxiety and fear. During such spells the picture is somewhat different from the one just sketched; the energy, for instance, is greatly increased (pp. 33, 34).

Clinical Picture. The patient has a sad expression on his countenance and complains of feeling ill at ease. He believes to be irretrievably lost in this world as well as in the hereafter. He wishes for his death, but not as a salvation; for he thinks everlasting perdition is allotted to him. Sometimes this depressive state becomes increased to an intense emotion of anxiety and fear. The

energy is then augmented. The patient runs about, restless and agitated, cries and laments aloud, unwilling to listen to any words of appeasement and consolation—*melancholia agitata*. That the depression of mood, the most important and most conspicuous symptom of melancholia, is of morbid nature can easily be recognized. It cannot be influenced in the least by persuasion and consolation, the reasons adduced by the patient to explain it are entirely insufficient, and time has no mitigating effect on it so that it persists with undiminished intensity for weeks and months (Ch. 13, p. 31).

The ideational process is markedly retarded. It is laborious for the patient to answer simple questions. He is himself conscious of the great poverty of his ideas and of the impairment of his memory. Fluctuations occur in this condition in the course of the same day so that the memory is less affected at some hours than at others.

The delusions of the melancholic patient are quite characteristic. He imagines himself to be despised, execrated, persecuted, and often gives utterance to his imagination. For the correct interpretation of these delusions we must bear in mind that the patient himself believes to deserve the contempt and persecution he maintains to be exposed to, that his self plays a role laden with guilt and sin (Ch. 28, p. 57). He tries to explain his delusions by some reason or other. Hallucinations and illusions in several senses help to strengthen the delusions, but in the main the latter are the outcome of the morbid mood.

The frequency of the volitional manifestations is diminished when attacks of anxiety and fear are not present. The patient is quiet, speaks seldom, slowly, and with a low voice, makes but hesitating movements with

little expense of power. His energy is lessened. He does not make an effort to move from his place, not even to relieve nature, and takes no nourishment or eats but slowly and reluctantly. In an attack of anxiety, however, the energy may be so much increased that he is apt to commit murder or suicide.

The vegetative processes are considerably reduced. Sleep, appetite, digestion, and assimilation of food are impaired. The blood circulation is sluggish, the temperature of the body is somewhat lowered. The strength of the patient decreases. Here and there oedema is noticeable, especially on the lower extremities. The skin presents a cyanotic appearance. Graying of the hair occurs sometimes. It may be only temporary, the hair assuming its previous color when recovery takes place.

Differential Diagnosis. Melancholia may be confounded with primary dementia. Severe acute diseases sometimes result in great mental exhaustion representing a complex of symptoms which is very similar to that of melancholia and is designated as primary dementia (p 192). This psychosis lacks the characteristic depression of melancholia, the patient being rather in an indifferent than in a sad mood. The characteristic delusions of self-depreciation are also missing in primary dementia. Finally, the immediately preceding exciting cause, which is either a grave infectious disease or excessive loss of blood, furnishes a differentiating point for primary dementia.

Melancholia and primary insanity or paranoia differ from one another by the character of the delusions. In melancholia ideas of self-depreciation, the consciousness of guilt and sin, oppress the patient; in paranoia delusions of grievance prevail, the patient believing himself

to be wronged without deserving it in the least (Ch. 28, pp. 57-58).

Hallucinatory insanity resembles melancholia when the contents of the hallucinations are of a disagreeable, painful nature and, therefore, productive of a sad mood. But in hallucinatory insanity the mood changes frequently, conforming itself to the hallucinations present at the moment, while the depression of melancholia is rather uniform and steady.

Those cases of delirium which resemble melancholia differ from it usually by the presence of fever. This differentiating sign is the more reliable as a melancholic patient falling ill with a feverish disease becomes free from his melancholia. Besides, the usual causative factor of delirium, i. e., intoxication, is, as a rule, demonstrable.

An epileptic patient in a sad mood may be taken for a melancholic. But this mistake will occur only when it is not known that the patient is epileptic. The psychic equivalents (p. 243-244) of the epileptic attacks offer many differentiating symptoms.

THERAPY. The treatment of melancholia is symptomatic. Suicide is to be obviated by careful watching which is especially necessary in the beginning of the psychosis. Particular precaution is required during the emotional attacks of fear because the energy of the patient is then very much increased and he displays great rage against himself and others. These attacks occur chiefly in patients who present a very quiet appearance, and at times manifest great considerateness.

Melancholics often refuse food, owing to their delusions of self-depreciation, or because their feelings of anxiety are increased when their stomach is filled. In such cases the patients have to be fed artificially. But

even when the patients can be induced to take much nourishment, the state of their general nutrition remains poor because digestion and assimilation are impaired, due to certain processes obtaining in the central nervous system. The patients should, therefore, not be forced to eat more than is just necessary. Through certain devices melancholics refusing food may be influenced to take some nourishment (p. 144). If their refusal of food is founded upon delusions of self-depreciation, upon the idea of not deserving nourishment, they eat something that appears discarded, or that others have left over.

If a melancholic patient refusing food is allowed to hunger, he does not die of starvation, but he may become so weak that a slight intercurrent disease may prove fatal.

It is entirely useless to seek to disuade a melancholic patient from his delusions. His condition may even be made worse by such efforts (pp. 32, 141).

It is advisable to keep melancholics in bed for some time to spare their strength by lowering the expenditure of bodily heat. But this rest cure must not be exaggerated, as weakness of the heart is apt to result from lack of muscular activity. Oedema occurring in melancholics is to be treated by furthering the blood circulation, as by warm baths, by massage, by leading the patients up and down, or by other muscular exercises.

The agitation of melancholic patients in emotional attacks of anxiety and fear may be somewhat mitigated by protracted warm baths and by medicinal sedatives. In general, however, medicines should be used as little as possible. For the prospect of recovery is so much better, and convalescence comes so much sooner, the less the brain has been influenced by drugs (p. 144).

Chapter LXXII.

STUPOR.

Stupor was formerly considered as a form of melancholia. But although it frequently develops from melancholia, it must not be identified with it. For the chief symptoms of melancholia are missing in stupor. There is neither depression of mood nor excitative anxiety in stupor, but constant indolence without any emotional agitation (Ch. 17, pp. 36, 37). At times stuporous patients appear to be excited, a certain affective state prevailing in which they create the impression of being fascinated, spellbound. They fall into ecstasy and remain in this state for hours and days without the slightest fluctuation or alteration of emotional attitude, the mind all the while being absorbed by a dominant idea. In severe stupor no form of excitement whatsoever is noticeable.

The ideational process is at a standstill or a single idea, the dominant idea, forms the whole contents of the consciousness. Manifestations of the will are entirely lacking. The patient remains motionless for hours and days. Even the reflex movements are absent or diminished. The irritation by the atmosphere, ordinarily causing movements of the eyelids, has no effect in stupor. The eyelids hardly respond by a reflex movement to an irritation so strong as to produce tears. The patient does not swallow his saliva and is frequently slavering. The urine is not evacuated so that the bladder is usually overfilled. The extremities remain in one and the same position for hours and days, although such position may be very uncomfortable or even painful. The peculiar rigidity of the muscles in such conditions has been desig-

nated as *flexibilitas cerea*. The vegetative processes are as sluggish as the volitional activity.

Consciousness and orientation are considerably impaired in stuporous patients.

The condition of the patient sometimes changes unexpectedly. All of a sudden he is aroused from his lethargic state and regains consciousness to the extent of being able to appreciate his circumstances. The lethargic condition may also pass suddenly into maniacal excitement. These attacks are not of long duration and return to the former lethargy.

A certain stupor occurs which does not correspond to the above picture. It is founded on a terrifying hallucination. The patient remains rigid in the posture occupied at the moment of the dreadful hallucination, and does not stir for fear that the slightest movement may prove disastrous.

Differential Diagnosis. Stupor resembles primary curable dementia which is also characterized chiefly by barrenness of the ideational and affective spheres (Ch. 17, pp. 36, 37). But in stupor the poverty of ideas is often due to the persistence and predominance of one idea preventing other ideas from arising in the field of consciousness. The reflex movements are not impaired in primary dementia, but greatly diminished in stupor. Patients suffering from primary dementia never show the peculiar rigidity of the muscles—flexibilitas cerea—which is often observed in stupor. They take sufficient nourishment and have no disturbance of the bladder. Finally, in primary dementia we learn through the anamnesis that the psychosis has been preceded by excessive loss of blood or a severe infectious disease.

Secondary dementia (p. 189) following upon an

acute psychosis may sometimes be taken for stupor. For the ideational sphere may have been greatly devastated by the preceding acute mental disorder. But although, in some instances, secondarily demented patients produce very few ideas, their mental dullness never reaches the extreme degrees met with in stupor. In secondary dementia the reflexes are not diminished, sleep and appetite are not impaired, and rigidity of the muscles is lacking. The condition of the patient in secondary dementia remains stationary and is not interrupted by sudden transitory changes such as occur in stupor. Finally, in secondary dementia the anamnesis shows that an acute mental disease has preceded.

THERAPY. To try to exert a psychical influence on a stuporous patient is a useless undertaking. The result obtained by mechanical manipulations is very slight also. Special attention is to be paid to the nutrition of the patient. The attending physician must know what and how much the patient eats. If the patient does take food handed to him, the nurses may be permitted to feed him. If however he does not open his mouth or does not swallow the food forced into his mouth, artificial feeding must be begun early and carried out by the physician himself.

Stuporous patients who remain sitting on one spot, motionless for so long a time that their lower extremities become swollen, should, if possible, be led up and down the room, or else be put to bed and massaged. Bandaging the legs is also useful.

The attending physician should not rely upon the reports of the attendants regarding the functions of bladder and rectum, but should examine these organs from time to time and see to it that they are properly evacu-

ated. At a digital examination of the rectum, he will sometimes, especially in female patients, find it filled with an enormous quantity of faecal masses even when the patient is reported to have diarrhoea.

Stuporous patients are very liable to be harmed by fluctuations of the atmospheric temperature. In cold weather they readily acquire chilblains, and exposed to the direct sunrays they develop symptoms of insolation. They must, therefore, be warmly clad in winter and kept away from the direct sun rays in hot weather.

Stuporous patients should not be left alone with other patients. For they may suddenly be seized with an attack of great excitement in which they are apt to commit dangerous acts.

Termination. Stupor may end in recovery. It may also pass without an intermediary stage into a state of maniacal excitement, the clinical picture of stupor being henceforth substituted by that of mania.

It is remarkable that stupor disappears when an acute infectious disease, as typhoid fever, intervenes. The freedom from the stupor, however, lasts only as long as the infectious disease does; when the latter ceases, the stupor reappears.

Chapter LXXIII.

MANIA.

Remark. The clinical picture of the mental disorder called mania consists of a well defined complex of symptoms. Morbid exaltation of the mood is its predominating feature, and from this all other symptoms are derived. A patient presenting this clinical picture is called a *maniac*. The word maniac (manic, maniacal), in this whole treatise, is used exclusively in this sense, but not in the meaning violently insane, which it usually has in every-day

language. Not every excited insane patient is a maniac. Melancholics and patients suffering from other forms of insanity, for instance, hallucinatory insanity, may be as restless, agitated, and violent as a maniac. The term manic-depressive insanity for a certain psychosis (pp. 235-236) is not very appropriately selected. For the two component parts of the adjective are complete opposites. And yet when they are used in conjunction to characterize a patient, the impression is created that he is suffering at the very same time from morbid exaltation and morbid depression. In a strict sense this is impossible, nor is it at all the case in manic-depressive insanity. For setting aside the so-called mixed states (p. 237), the theory of which is still far from being firmly established (p. 239), we find that in manic-depressive insanity the patients present symptoms of exaltation (manic) at some periods and those of depression at other periods, but not both at the same time. This psychosis has been called periodic (circular) insanity—recurrent insanity—which term is certainly less misleading than the designation manic-depressive insanity. It may not be out of place to add here that some psychiatrical writings are greatly lacking in clearness, owing to the intermingling of the popular and psychiatrical significations of the word maniac (manic).

Symptom-complex. Morbid exaltation of the mood is the characteristic symptom of mania. Now and then the patient falls into an angry mood, but it is merely a transitory reaction to resistance and difficulties put in his way and passes away quickly. The ideational process is accelerated, the memory is facilitated. Hallucinations occur in one or in several senses. Delusions of grandeur (Ch. 28, p. 57) are, as a rule, present. The frequency of the volitional manifestations is increased (Ch. 37, p. 77). The energy is augmented with regard to the application of great muscular power, but diminished as to purposeful and persistent action (Ch. 41, p. 83). The vegetative processes are enhanced, due to certain causes obtaining in the central nervous system. Appetite and digestion are excellent and food is assimilated very well. Owing to his great exertions the patient

loses weight and strength, but much less than would normally be the case with the same exertions. Sleep is reduced a good deal.

Clinical Picture. The patient is constantly in a rosy humor. He maintains to be in excellent circumstances and to enjoy the best of health. On his countenance rests a happy expression, his eyes are glistening with joy. The reasons adduced by the patient to explain his great cheerfulness are insufficient, or there are even causes present which ought to produce sadness. The exalted mood is, therefore, of morbid nature (Ch. 15, p. 34). If the attempt is made to pull the patient down from his heaven of bliss, he has but a smile of pity for the bearer of the ill tidings, or gets angry at him. The cheerful mood lasts exceedingly long, which is another criterion for its being morbid (p. 35). It happens that a maniacal patient weeps. But this is already a sign of approaching convalescence, indicating that the patient now and then is in a normal affective state and recognizes his misery (pp. 128, 129). Weeping does, therefore, not exclude mania, but is an indication that the end of the mental malady is not far off.

The acceleration of the ideational process is recognized chiefly by the patient's manner of talk. He is very loquacious. In conversation he soon gains the upper hand, speaks about things never intended to be drawn into the conversation, and wanders quickly from one subject to another. It appears as though one idea would drive the other away—*flight of ideas*—(pp. 36, 42). The patient shouts, sings, and laughs, thus interrupting at times his exuberant talk. In aggravated cases the acceleration of the ideational process may be so great that the apparatus of speech becomes inadequate to fol-

low and express the ideas rapidly rushing one after another. Only fragments of sentences, single incoherent and incomprehensible words, are then uttered. The superabundance of ideas is manifested also by the patient's ability to construct rhymes.

The accelerated course of ideas brings about an improvement of memory. The tension in the nervous elements and paths is raised so that their resistance is more easily overcome (Ch. 8, p. 19). The reproduction of memory images by way of the association paths is thus facilitated. The patient believes to be clever and possesses indeed a certain wittiness. When the maniacal excitement is slight, a layman, easily misled, may regard the patient merely as a talkative, merry person.

The patient is laboring under delusions of grandeur. He interprets everything to his favor, overestimates his powers, and underestimates difficulties and obstacles. He deals with persons whom, when he was sane, he would accost with the greatest reverence, in the most familiar way as though they were his equals. When hallucinations supervene or when the maniacal excitement is great, the delusions are more pronounced. The patient then believes to be possessed of great wealth, to be an eminent personage who, by his own unlimited power, will bring order and rule into this wicked world. The delusions either bear the mark of the irrational and ridiculous, thus being absurd delusions of grandeur (pp. 55, 56); or else they are explained by the patient in a fairly plausible way. Whether one or the other is the case depends upon the basis of the psychosis. In mania of general paresis the delusions are almost always characterized by absurdity. The patient asserts he possesses billions, is the emperor of China or some divinity. He often contra-

dicts himself without being sensible to the contradiction. In mania of periodic insanity, hereditary insanity, senile insanity, however, fairly good reasons are adduced by the patient for his delusions of grandeur (pp. 55, 56).

Hallucinations are rarely wanting in mania. They are interpreted by the patient to his advantage. They confirm what he believes and wishes. If they do not, he reacts towards them with outbursts of anger.

The increased frequency of volitional manifestations is expressed by a constant impulse for movement. The movements are carried out for their own sake and have no special aim. In the open air the patient rambles about, runs, jumps. When he is isolated, he tugs at his clothes, tears them, handles his excretions, smearing the walls and other objects with them. Especially female patients wallow on the floor, pluck at their hair and dirty it with their excrements. These manipulations have been called symptoms of isolation. As a rule, the maniacs are hoarse after their excitement has lasted a few days, owing to the constant talking, singing, shouting.

The augmentation of the energy of force (p. 83) is exhibited by an excess of power in all actions. The movements of the patient are forceful, extravagant in strength. In conversation he shouts. Requested not to speak so loudly, he lowers his voice for a moment to resume the former loud tone after a while. In writing he makes powerful long strokes. It is interesting to observe the handwritings of a paretic patient in the maniacal and melancholic stages. They can be clearly distinguished, and thus the stage of the psychosis to which each handwriting belongs can be established. It has been maintained that patients in maniacal excitement are possessed of greater strength than they normally have, per-

haps due to certain processes obtaining in the central nervous system. But it is possible that the movements of maniacs bear an excess of power because the consideration does not enter their mind that they are liable to derive harm from waste of strength (pp. 83-84).

With regard to persistent action, however, the energy of the maniac is lessened. He is unable to concentrate his attention upon a subject and readily yields to incidental impulses. Any intervening perception is sufficient to divert him from what he had just intended to do. By directing his attention to another object he may be made to give up a design which he seemed to be intent upon carrying out. This peculiarity of the maniac brings about his *"tractability"* which is of great importance in the treatment (p. 86). In an outburst of violence necessitating great force to subdue the patient, one can manage him without much difficulty by resorting to the maniacal tractability.

As to the vegetative processes, sleep is reduced. Nevertheless the strength of the patient remains fairly well preserved. He does not look exhausted, although he loses a little weight. The face appears ruddy, the eyes glisten. This preservation of the patient's strength notwithstanding excessive physical and mental exertion is founded on certain causes which prevail in the central nervous system. The patient eats much, digests and assimilates the food very well. The fact that maniacs do not become exhausted with all their great exertions is very important for the distinction of malingerers from patients.

Differential Diagnosis. The monomanias

(pp. 88, 89), such as kleptomania, pyromania, phonomania*, etc., do not belong to mania proper at all. The pyromaniacs are usually idiots (p. 199), the kleptomaniacs are paretics, the phonomaniacs* are paranoiacs laboring under certain delusions. At best nymphomania may be brought into relation to maniacal excitement. Especially female maniacs exhibit great sexual excitement, uttering the most obscene exclamations relating to the sexual activity.

Not every restless, boisterious patient is a maniac. Melancholics in an emotional attack (p. 154) are also restless and violent, but fear is the foundation of their agitation, which excludes mania.

Course and Prognosis. Maniacs may be completely restored unless the basis of their mental disease is unfavorable as is the case, for instance, in general paresis. The extent of the patient's agitation is irrelevant as regards his recovery.

The maniacal excitement may pass into melancholia as in hereditary insanity or periodic insanity. The change occurs sometimes quite suddenly; in the course of one night the clinical picture assumes an entirely different aspect, so that the patient can hardly be recognized on the following day.

During convalescence maniacal patients frequently show a considerable abatement of strength. When the causes prevailing in the central nervous system for the enhancement of the vegetative processes have ceased with the discontinuance of the psychopathological process, the patients may pass into a state of great physical and mental exhaustion as a result of the preceding exertions.

* The derivation of phonomania, phonomaniac, is explained in the foot-note on p. 88.

The further prognosis is to be given with great caution. The assumption must not be made forthwith that the acute mental disorder has ended in permanent feeble-mindedness. For a long time is necessary for some patients to recover from the enormous exertions they have gone through during the maniacal excitement. It is, however, possible that the mental weakness, noticeable when the acute pathological process has ceased, remains permanent, i. e., that the mania has terminated in secondary dementia, secondary feeble-mindedness.

THERAPY. In the management of maniacal patients their "tractability" (p. 167) affords valuable aid when employed judiciously. No direct resistance must be offered them, nor their desires flatly refused. By directing their attention to some other object they can be induced to abandon their intentions. Care must be taken that certain desires are not awakened in them. Dangerous instruments, objects of value, etc., must be kept out of their sight.

It is necessary to see to it that the patients do not become exhausted through overexertion. Exhaustion is likely to occur especially in mania of senile insanity. Sometimes artificial appeasement through hypnotics is indicated to prevent exhaustion. In juvenile patients exhaustion is not to be feared much, yet caution is required. For the patients are readily liable to contract injuries through their agitated conduct, and injuries in maniacs are very difficult to treat. For the same reason, care must be taken that the patients do not swallow food of extreme temperature or otherwise dangerous. They must not be allowed to smoke, to drink in excess, etc.

Chapter LXXIV.

HALLUCINATORY INSANITY.

The occurrence of a psychosis characterized by hallucinations as the chief feature has been called in question. But there *is* a clinical entity of insanity in which hallucinations form the primary and dominant symptom giving rise to all the other psychopathic manifestations. This mental disease may, therefore, be appropriately designated as hallucinatory insanity.

Symptom-complex. The principal symptom of the psychosis are hallucinations. They occur in one or in several senses and determine the affective state (p. 14). The latter shows no primary disturbance, but is only secondarily changed; exaltation, depression, or angry mood, etc., prevails according to the character of the hallucinations. The affective state, in turn, influences the course of ideas accelerating or retarding it (Ch. 7, p. 18). The memory is facilitated when the affective state is exalted, and impeded when it is depressed. The frequency of the volitional manifestations is increased or diminished, depending upon the affective state. The vegetative processes, too, are affected only secondarily. Appetite, digestion, and assimilation may be disturbed or normal. Some patients reject food and decline in strength, but to no greater extent than a normal individual taking no nourishment. When appetite and sleep are not disturbed, the state of the general nutrition remains satisfactory.

Clinical Picture. The clinical picture of hallucinatory insanity is very manifold. For it varies according to whether the hallucinations take place frequently or rarely, whether they are of agreeable or disagreeable

nature, and whether one or several senses are involved in the hallucinations.

Some patients hallucinate very rarely. Thus in taking the anamnesis in a case of hallucinatory insanity we may learn that some ten years ago the patient had "heard a voice" and had not known what to make of this. Such a patient is greatly perplexed by his hallucination, unable to explain to himself the strange phenomenon, and is afraid or ashamed to confide his experience to any one. Such cases of hallucinatory insanity will remain doubtful, for a long time at least, because the patients conceal their hallucinations which worry them only once in a great while.

It occurs that a person all of a suddent becomes greatly agitated, frantic, and performs violent acts which cause his commitment to an insane asylum. Here he is perfectly quiet and composed and it is impossible to notice anything abnormal in him. The diagnosis transitory insanity should not be advanced forthwith in such a case, for it does not explain the case. But we should rather bear in mind that the patient's strange behavior may have been due to hallucinations which he is now unwilling to reveal. Change of locality is also to be taken into consideration. For hallucinating patients become free from their hallucinations, for some time at least, when they are removed from their accustomed surroundings. A prisoner, for instance, is seized with hallucinatory insanity and commits strange acts. Brought thereupon into the insane asylum for observation, he shows a normal behavior. Only after a long interval a change may again take place in the conduct and character of the patient, proving him to be insane and revealing the nature of the psychosis.

Hallucinatory insanity of this form is very commonly designated as transitory insanity.

In another instance a patient is brought into the asylum in a state of great confusion. He is very restless, excited, violent, and covers his face and ears as though to avoid seeing and hearing. He creates the impression of being in delirium. In such cases it is also at first impossible to obtain from the patients a proper account about their mental attitude, and hallucinatory insanity can only be surmised. When the patients become free from their hallucinations, their confusion and agitation cease, and then it may be possible to establish that they had been under the influence of hallucinations.

A third clinical picture of hallucinatory insanity is manifested in the following way. The patient is considerably excited once in a while, changes his domicile several times without adequate reasons, and suddenly performs a violent act which causes his commitment to the insane asylum. Here he relates he has repeatedly "heard" or "seen" this and that and has been unable to interpret his experiences, but now he understands everything after the physician has explained to him that all his troubles have been brought about by sense deceptions.

Again in another instance the patient makes repeated attempts at suicide, is depressed or agitated, tears his clothes, refuses food, laments loudly that he will soon be thrown into prison, executed, etc. His condition would suggest the diagnosis melancholia (melancholia agitata). Questioned on what he bases his fear of being arrested, beheaded, he replies he has "heard people say" that he has committed a crime; but these imputations do not contain a particle of truth. Such an answer shows

that the patient is hallucinating, for it represents the characteristic contents of a hallucination.

Other patients complain that they are continually vexed by strange perceptions of hearing and sight. They implore their friends and their physician to relieve them from these intolerable sufferings. Suddenly their condition is changed and they are entirely composed; they are rid of their tormenting hallucinations for a day or two. Then the same play is repeated.

Thus hallucinatory insanity presents widely differing clinical pictures. The patients may be quiet, agitated, violent, confused, desperate, intent upon suicide, wavering, etc.

Differential Diagnosis. A hallucinating patient may be taken for a maniac. But after a few days' observation it happens that the patient refuses food. The diagnosis mania is then to be provided with a question mark. It may, indeed, be the case that a maniac does not take nourishment, because he does not find time to eat, as it were, or because he is unable to carry out the movements necessary for eating, due to flight of ideas. But if an attendant helps him, steadying his hands and arms or handing him the food, he takes it even with eagerness. A hallucinating patient, however, will persist to refuse food in spite of such help.

Paranoia is to be taken into consideration. If the patient is excited, believing to be unjustly persecuted, this delusion of grievance (Ch. 28, p. 57) may intimate paranoia. But the hallucinating patient never exhibits the peculiar tendency of drawing conclusions from his perceptions as does the paranoiac; he would not see in insignificant incidents proofs for his delusions, as would the paranoiac. His judgment is still sound in this re-

spect. Besides, the paranoiac usually harbors at the same time delusions of being furthered (Ch. 29, p. 58) and tries to bring them in accord with his delusions of being wronged, explaining the contradiction between both and combining them into one system (systematized delusions). The hallucinating patient does not think so systematically with regard to his delusions. Moreover, since hallucinations are caused by certain irritative states of the brain cortex, their contents will not be stable, but subject to frequent changes. While the paranoiac is controlled by definite and comparatively lasting ideas, the hallucinating patient's mental attitude is dependent upon what he just happens to "hear" or "see." To-day he may be in one frame of mind, to-morrow in another one.

Hallucinatory insanity resembles melancholia when the patient is in despair or excitative fear. But this secondary apprehensive anxiety of the hallucinating patient is distinguished from the primary one of the melancholic by the delusions present. In melancholia delusions of self-depreciation are usually demonstrable. The patient believes to deserve the persecutions he complains about. This suppression of self-esteem is absent in the hallucinating patient. He considers himself innocent.

Prognosis and Etiology. Hallucinatory insanity may be followed by restitutio ad integrum, and this sometimes quite suddenly with the cessation of the hallucinations. The mental disturbance lasts in some cases only a few weeks. In other instances the hallucinations commence slowly and persist for years. Some patients remain the prey of their hallucinations for ten years and longer. But even after many years' duration complete recovery may ensue.

Intoxication is frequently at the basis of hallucinatory insanity (morphine, cocaine). Sometimes sudden withdrawal of an accustomed stimulant furnishes the etiological factor of the psychosis. The removal of the intoxicating agent or careful administration of the habitual excitant may restore the patient's health. Very often trauma is the cause of hallucinatory insanity. In such cases the hallucinations may disappear and the patient recover when the consequences of the concussion of the brain have ceased. The prognosis of traumatic hallucinatory insanity is, therefore, not unfavorable. Yet it is to be given with caution since the hallucinations may in any case persist for years. It also occurs in traumatic hallucinatory insanity that after some time the patient becomes free from his hallucinations and is entirely normal for a long time, and then the mental disorder sets in again in its former intensity.

Therapy. In the treatment of hallucinatory insanity it is necessary to bear in mind that a hallucinating patient is entirely unreliable. He may be cheerful, quiet, harmless to-day, despondent, violent, dangerous the next day. The compelling force of the hallucinations is apt to drive the patient into committing atrocious misdeeds. Intelligent patients report that the hallucinations are sometimes followed by irresistible impulses for certain acts (Ch. 25, p. 52). The momentary suggestion of a hallucination may thus instigate a crime. Hallucinating patients, therefore, require careful watching.

When the cause of hallucinatory insanity, e. g., intoxication, abstinence, or trauma, has been established, the attempt is to be made to remove the harmful consequences of these etiological factors.

Chapter LXXV.

PRIMARY INSANITY, PARANOIA.

Symptom-complex. Primary insanity or paranoia, unlike secondary insanity (p. 181), develops during a state of normal health. The mental disorder starts with a peculiar affective state. The patient commences to be constantly harrassed by an indefinable feeling of being observed, of being the object of everybody's attention, partly in a benevolent, partly in a malicious sense. He feels ill at ease, his mental tranquillity is disturbed, because he imagines that all the people around him are concerned about him. The ideational sphere shows nothing remarkable as to the frequency of ideas arising in consciousness, but is characterized by definite delusions, by ideas of being furthered and wronged (pp. 55-59), by ideas of furtherance and grievance. These two forms of delusions are brought in accordance with each other, and contradictions between them are explained with some measure of plausibility (Ch. 29, p. 58). The delusions are corroborated by hallucinations. The frequency of the volitional manifestations is not changed, or not unusual. The energy dependent upon the delusions is sometimes considerably increased (p. 85). In the vegetative sphere there is impairment of sleep, owing to great excitability. The willingness to take nourishment is influenced by the delusions. Some patients eat normally, others abstain from food. Within this complex of symptoms there are many forms of primary insanity.

Clinical Picture. In a state of fairly good health the patient commences to feel uneasy. Everything around him gives him the impression as though "something was the matter." He is constantly annoyed by the thought

that he has mistaken his vocation, that he had been destined to occupy a more important position in life than he does. This mood often arises quite suddenly. Many a patient reports he had changed his domicile to avoid certain annoyances. In the new place he had lived with a tranquil mind for a long time. Incidentally somebody looked at him in a strange manner, and from this moment his mental tranquillity was gone. After another change of residence he had made a similar experience.

In the mood just outlined the patient is unable to perceive things correctly and misinterprets circumstances and occurrences. He attributes significance to everything he sees and hears, although in reality it is of no importance and has no relation whatsoever to his person (pp. 74-75). In any newspaper article he reads reports that concern him. The feeling of being a person about whom people busy themselves a good deal, leads him to the belief that he is a man of great importance. He argues after this manner: "I am a plain person, have never attempted to force myself to the front: why do the people constantly direct their attention toward me? There must be something to it." In this way he arrives at certain wrong notions, i. e., at delusions, even without the intervention of hallucinations. The delusions become more definite and pronounced when, after some time, hallucinations supervene. The auditory hallucinations are usually short, restricted to a few words, infinitives or imperatives, as "there he comes!" "looks like the prince," "favorite of the king," "to arrest," "run!" "shoot!" "catch!" etc.

The hallucinations impart exactness to the patient's delusions. From a certain exclamation he derives the conviction that he is not descended from the man who

has passed for his father until now, but from a prince. He believes to have a claim to the throne. Now he is able to explain to himself why some time ago somebody had gazed at him with a look portenting evil. This person was a rival of his who had the intention to do away with him by foul means in order to acquire the throne. The patient tries to bring the events of his former life into relation to his present ideas, to recall from his early youth occurrences which, already at that time, pointed to his future greatness, to his being descended from a king, etc.—systematized delusions. It occurs to him that his teacher had given him a picture with a crown on it, that his mother had told him a story of a prince, that a high personage had shaken hands with him and had treated him very graciously, etc. All this intimated that he was entitled to the throne. Now he wants to take a decisive step toward the acquisition of the crown. He changes his domicile and undertakes long journeys to get out of the way of his adversaries and to be undisturbed in the pursuit of his aim. He even abandons his vocation. Relatives and neighbors soon notice that he has become irrational and irresponsible. Now and then he makes threatening remarks against people whom he imagines to be his enemies. In this stage the patient has become a public danger, and his commitment to the insane asylum takes place. Here he assures the physician everything he has told him is absolutely true, although it may sound rather incredible.

In some instances the delusions and through these the whole clinical picture bear a religious character. The patients imagine to have been selected by God to redeem the wicked world and to be persecuted, therefore, by the Evil One. Most forms of religious insanity belong to

paranoia. Formerly religious paranoia, in which divine suggestions, demoniacal possession, belief in devilry, etc., played a prominent part, was quite frequent. Nowadays more modern delusions figure frequently in paranoia. The patients believe to be chloroformed, electrized, hypnotized, to hear telephonically, to receive messages by wireless telegraphy, to see by means of X-rays, to soar high above the clouds in a dirigible air-craft, etc. The hallucinations and delusions in paranoia, the same as in other psychoses, are modernized, as it were, the latest invention being brought into play in their formation.

The delusions play the principal part in the clinical picture of paranoia. They are well distinguished from similar delusions of other psychoses. The paranoiacs are not possessed by the consciousness of guilt and sin, but believe to be innocent and regard their persecutors as malicious persons who try to harm them for no just cause. Their persecutory ideas are, therefore, delusions of grievance. These often resemble the melancholic delusions of self-depreciation. But there is a marked difference between both. In paranoia the patient's self-esteem is not diminished in the least, but in melancholia it is greatly lowered (Ch. 28, p. 57).

The paranoiic delusions of furtherance are similar to delusions of grandeur. But the primarily insane patient does not have the feeling of being able to attain to greatness through his own unlimited powers. He owes all his present and prospective successes to his descent, to the benevolence of His Majesty, of the Holy See, of God, etc. He is therefore controlled by ideas of being the object of favor and bounty. He cannot help being destined for an excellent future.

Paranoiacs are often quick at repartee in solving

contradictions prevailing between their delusions of furtherance and those of grievance.

Forensic Consideration. The delusions may induce the paranoiacs to perform all kinds of offensive acts. Some patients inflict injuries on themselves. Self-mutilation of the genital organs, for instance, occurs in religious paranoia. Other patients imagine that their strength is being diverted from them, that life-blood and other vital juices are withdrawn from their body. They drink, therefore, their own urine, hoping to regain their vigor through it. Another paranoiac conceives the notion that the blood of a child or the testicles of a young boy will render him invincible and invulnerable. This notion may lead him to commit atrocities or murder. Driven by delusions the paranoiacs make murderous attacks upon people coming in their way. 60 to 70% of the assaults upon kings, princes, and high dignitaries are due to primary insanity. The paranoiacs, therefore, come often into conflict with the Penal Code. They frequently know very well that their acts are criminal. They admit that they had known it, and their sole defense is that they had committed the crime in order that their cause might become known to the public, and their adversaries be severely punished.

Differential Diagnosis. In cases where primary insanity resembles melancholia or mania an exact analysis of the delusions will exclude these psychoses. In hallucinatory insanity the mood of the patient changes very often, while in paranoia the patient's emotional attitude is comparatively lasting. Besides, the hallucinating patient is not possessed of well-defined ideas of furtherance and grievance. The differentiation from secondary insanity will be pointed out later.

Course. Primary insanity is sometimes interrupted by a transitory standstill during which the patient appears entirely normal. After a lapse of some time the mental disease sets in again. Caution is, therefore, required in giving the prognosis after all morbid symptoms of paranoia have disappeared. Complete recovery must not be assumed before a sufficient time has passed without signs of mental disorder. Paranoia as such never leads to death. The mental disease may last 10-20 years, and yet the patient may remain in a fairly good physical condition.

Therapy. The treatment of paranoia is purely symptomatic. Artificial feeding becomes necessary in some cases (p. 143). The primarily insane patients are dangerous to themselves and to others and must, therefore, be carefully watched, especially in view of the fact that they are often very circumspect. They are capable of simulating recovery before their physician and their relatives to gain a free hand for the execution of their pernicious plans.

Chapter LXXVI.

SECONDARY INSANITY.

Secondary insanity develops from primary insanity or forms its continuation. It is, therefore, important to draw the dividing line between the two, to determine when a paranoiac is to be considered as secondarily insane.

Symptom-complex. The affective sphere shows no disturbance. The patient's mood is normal and tranquil as long as his fixed ideas are not evoked. The ideational sphere is characterized by fixed delusions (Ch. 30, p. 59)

which constitute the pathognomonic symptom of the mental disease. The volitional activity is not disturbed, but the fixed delusions sometimes cause an increase of energy (p. 85). In the vegetative sphere there is nothing abnormal. Sleep is not impaired. Appetite, digestion, and assimilation are good.

Clinical Picture. There is no morbid change in the affective sphere. The patient reacts in a normal manner to external influences. In his conversation he speaks calmly and reasonably, so that nothing unusual can be noticed in him. But when his fixed delusions are touched upon, he becomes lively and agitated, and if they are slighted or contradicted, violent emotions may be called forth. A few words may suffice to upset the patient's mental balance.

The chief criterion for the diagnosis of secondary insanity are the fixed delusions. Delusions are designated as fixed when they are no more supported and nourished by morbid changes of the affective state or by hallucinations, but persist, although these causative factors of delusions have ceased long ago (Ch. 30, p. 59). With the establishment of fixed delusions permanent feeble-mindedness has been proved. Aside from his fixed delusions the patient's judgment is quite normal, and he may even be very intelligent, but in the province of these unchangeable wrong notions he is entirely devoid of the slightest reasoning power. They occupy, as it were, an isolated position in his mentality and exert no influence on his character and conduct. He performs acts which are strikingly incompatible with and contradictory to his insane ideas. While a primarily insane patient possessed by the delusion of being heir to the throne refrains from any vulgar work considering it below his

Royal dignity, the secondarily insane patient harboring the same idea is not ashamed of, and does not abstain from, the most humble labor. He does not feel the contradiction between his low occupation and his high notion of being a king. This inconsistency indicates that mental enfeeblement has resulted from the preceding primary insanity. Only when the patient is provoked, when he is reproached for doing work unbecoming a king, he abandons it and conducts himself in conformity with his delusion. But his dignified bearing does not last any longer than the emotion produced by the provocation. When after a comparatively short time the emotion has subsided, he resumes the work unworthy of His Royal Highness.

The volitional activity is entirely normal in all matters not relating to the contents of the insane ideas. But when the patient has been exasperated through allusion to his delusions, he displays great energy and is even apt to perform dangerous acts.

Differential Diagnosis. A secondarily insane patient, while not in a stage of exacerbation (see Prognosis), can easily be distinguished from a paranoiac in the first attack. It happens, however, that primary insanity makes a standstill and then recurs (p. 181). The following paranoiic attack differs very little from secondary insanity if the first attack has resulted in some mental enfeeblement with fixed delusions. The main differentiating feature is that in recurrent paranoia new delusions arise, which is not the case in secondary insanity unless it becomes aggravated by an exacerbation. Secondary insanity in a stage of exacerbation is equivalent to recurrent paranoia associated with mental enfeeblement which has been brought about by a previous attack.

Course and Prognosis. There is no recovery from secondary insanity. Sometimes the mental disease makes even further progress through the arising of exacerbations with new delusions. After the cessation of such an acute attack the recent delusions remain permanent, become fixed. In this way several groups of fixed delusions, belonging to different attacks and mutually independent, are established. Now one system of delusions occupies the patient's mind, now another. A patient who has gone through many exacerbations, retaining new delusions after every attack, may be entirely confused and unintelligible to the observer.

Therapy. The possibility of the disease making further progress is important in the treatment of secondary insanity. As a rule, the patients are harmless and fit for work. They may, therefore, be employed in the asylum in a useful manner. When an exacerbation arises, they become again distrustful and discontent and are to be treated like primarily insane patients.

Secondarily insane patients may be left in private care. The mental faculties that have remained intact are to be fostered with special attention and stimulated judiciously by appropriate occupation. It is not necessary to exclude the patients from society. Their relatives must be instructed to avoid discussing in conversation anything that could be construed as bearing upon the contents of the fixed delusions.

When provoked secondarily insane patients may commit criminal acts and thus come into conflict with the Penal Code. They are, then, to be deemed irresponsible in the same way as at the time when their delusions were still supported by hallucinations.

Chapter LXXVII.

DELIRIUM.

Symptom-complex. Great excitability of the central nervous system forms the basis of many symptoms of delirium. The affective state is marked by considerable fluctuations, sadness, cheerfulness, anger, fright, etc., alternating frequently. The ideational sphere is characterized by hallucinations in several senses, by incoherence and flight of ideas. Consciousness is disturbed to a greater or lesser degree. The frequency of the volitional manifestations and the energy are increased. In the somatic sphere high fever is often present. The patient impresses the observer as being dangerously ill. He takes very little nourishment, and the assimilation is greatly reduced. The strength of the patient decreases perceptibly. Sleep is disturbed or lacking altogether, but also soporous conditions are met with.

Clinical Picture. The patient is greatly agitated. Even when lying in bed, too weak to keep himself erect, he is not quiet for a moment, but is continually tossing about. His consciousness is benumbed. In his frequent soliloquies he reveals bewilderment. When spoken to, he answers but irrationally or not at all. He is not clear about time and place, does not recognize his surroundings —disorientation—and presents the symptom of confounding persons, believing to see old acquaintances in people he has never known. The patient's confusion is still more enhanced by manifold hallucinations which produce strong emotions. Now he laughs, now he cries or ejaculates exclamations of terror.

The movements of the patient are rapid, forceful,

uncertain, so that he often hurts himself. A peculiar symptom is falling down which appears to be intentional. It happens that the patient stands quietly for some time. Suddenly he drops to the ground, the body rigid, on his face or on the back, receiving considerable injuries.

The energy is sometimes very much increased. A delirious patient so feeble that he has to be kept in bed, may unexpectedly leave it and rush towards the door intent upon escaping. By a sudden jump through the window he may end his life. The patient's death in such a case is not due to suicidal intention, but to confusion or to the compelling force of terrifying hallucinations. A delirious patient is also dangerous to others. He may assault any one coming near him in a reckless manner, making use of any murderous instrument.

A patient in delirium usually rejects nourishment. He would even eject food introduced into his mouth. At times he hastily swallows down something. The refusal of food is aggravated by fever which is very common in delirium. The appearance of the patient is that of one seriously ill. His face is somewhat flushed, his eyes are without lustre. Now and then he perspires abundantly. The lack of sleep and of nourishment, the fever, and the restlessness contribute to reduce the patient's strength perceptibly and rapidly.

The deliria are usually of toxic origin. They are caused by chronic poisoning, as through alcohol, morphine, cocaine, etc., or by the toxines of the acute infectious diseases. In some cases of delirium no direct toxic factor is demonstrable. Epileptic patients even without indulging in intoxicants are subject to deliria representing psychical equivalents (p. 243-244) of the epileptic at-

tacks. A peculiar delirium of unknown origin is the delirium acutum which will be treated later (p. 263).

Differential Diagnosis. Delirium sometimes resembles maniacal excitement. But a maniac's cheerful mood is rather lasting, while an eventual cheerfulness in delirium disappears quickly. The consciousness is hazy in delirium, but clear in mania. A patient in maniacal excitement has a rather florid countenance and a healthy appearance, a delirious patient looks seriously ill, hectic. Refusal of food does not occur in mania, but is frequent in delirium. It happens, indeed, that a maniac does not take food. But this is due to intense excitement which renders the patient unable to carry out the movements necessary for taking food. When in such a case the food is put into his mouth or he is otherwise helped, he swallows it even with eagerness. A delirious patient rejects the food even when it is handed to him. He spits it out when it is put into his mouth.

It is sometimes very difficult to differentiate delirium from hallucinatory insanity. Consciousness in the latter psychosis, even when the hallucinations are ever so vivid and varied, is never impaired to such an extent as in delirium. The strength of the hallucinating patient does not sink as rapidly as that of a patient in delirium. Fever is often present in delirium, but is absent in hallucinatory insanity. The anamnesis may also help to clear up the diagnosis. In a patient who is suffering from an acute infectious disease, or in an epileptic, delirium is to be assumed rather than hallucinatory insanity.

Course and Prognosis. The duration of delirium is short. It varies between a few hours and 4-6 weeks. Usually delirium terminates in recovery, but many a patient succumbs directly to the deleterious effects of the

mental disorder notwithstanding the best care and circumspection in the treatment. The physician must therefore be cautious in the prognosis of delirium.

THERAPY. Delirious patients require careful watching. They must be guarded against self-injury. Special attention is to be paid to the nutrition of the patients. When their strength sinks rapidly, artificial feeding must be instituted without delay by introducing food per rectum or through the stomach tube. Only nutrient liquids, easy of absorption, are to be used for this purpose. It is necessary to avoid giving too much food.

For the sake of saving the patient's strength and of preventing exhaustion, medicaments are necessary to quiet him. Before administering hypnotic drugs heart and lungs must be carefully examined. Otherwise it may happen that after taking 2 grams of chloral hydrate, for instance, the patient falls into a sleep from which he does not awake. An appropriate way of giving medicines is hypodermic injection which is less difficult than medication per os. Strict disinfection of skin and hypodermic syringe is necessary, as an eventual phlegmon may easily lead to gangrene because of the weakened condition of the patient. A sedative effect on very restless patients is derived from wet packings and protracted warm baths. But these procedures can be employed only with great difficulty on account of the resistance of the patients.

Chapter LXXVIII.

SECONDARY FEEBLE-MINDEDNESS, SECONDARY DEMENTIA.

Secondary dementia is the result of a psychosis. It shows many gradations of which the lighter ones may be designated as secondary feeble-mindedness.

In some instances a diminution of mental capacity is perceptible only to the intimate acquaintances of the patient, while other people would hardly recognize in him any mental weakness. In other instances every mental faculty of the patient has been annihilated. Between these two extremes there are many more or less grave forms of secondary dementia.

Agitated and apathetic dementia have been distinguished. Some patients are lively and manifest a certain restlessness, others are very quiet and mute. Which of these two forms will be present, depends upon the original psychosis. In secondary dementia resulting from mania the patient would, from time to time, fall into a state of excitement, of much lower intensity though than that of the primary mania. If the dementia is the outcome of a psychosis in which excitative states are rare, it shows the apathetic character.

Symptom-complex. There is an impairment of the affective sphere ranging from a diminution of the affective tones to complete obliteration of all feeling (Ch. 17, p. 36). Similar conditions prevail in the ideational province. The production of ideas is only lessened in some instances, in others hardly any idea arises in the patient's consciousness, so that the whole treasure of experiences stored up in his brain seems to have been wiped out by the preceding psychosis. Memory and

power of understanding are more or less reduced, in aggravated cases both functions have been abolished. As to the activity of the will there is in agitated dementia an increase of the frequency of volitional manifestations, and a decided diminution of the energy of persistence (pp. 84, 86). In apathetic dementia both are decreased. The vegetative functions proceed, as a rule, normally. The physical condition of the patient is, therefore, usually satisfactory. Yet they readily acquire other diseases, as tuberculosis.

Clinical Picture. The patient is constantly in a mood of indifference and indolence. He takes no interest in his surroundings and is very little concerned about his own affairs and the welfare of his nearest relatives. In his speech and conduct he betrays poverty of ideas. The deficiency of his memory shows itself in his inability to remember especially events antedating his acute mental malady. He has not progressed with time. When questioned in which year he is living, he would frequently name another than the current year, generally the one in which he first became mentally ill. If a demented patient is frequently overheard to mention, in his soliloquies, a certain year, the assumption is justified that his mental derangement has commenced in that year.

In agitated dementia the patient manifests some excitement. He walks up and down the room, tugs at his clothes, pulls and twists his hair, and handles anything he can get a hold of. All his manipulations are to no purpose. He utters often incomprehensible words and broken sentences. Mechanically he repeats one and the same phrase for hours (verbigeration). In apathetic dementia the patient is quiet, speaks very little, and performs but few volitional acts.

The capacity of understanding is markedly diminished. The patient does not comprehend the simplest questions and gives very superficial answers. He has no clear conception of time and place. He leads more or less a mechanical life, according to the regulations prevalent at the asylum. Left to his own guidance, he would be unable to observe any order of affairs. He would eat and drink to excess and at improper times, he would swallow harmful food, gulp down fluids which are too hot, etc. He would neglect the cleanliness of his body, he would remain in bed for days, not leaving it even to relieve nature, and then again he would not go to bed for several days. He would expose himself to cold, insufficiently clad, and would sit in the direct sunlight for hours. He is dependent for his welfare upon others, being helpless when left alone.

The vegetative functions, as appetite, digestion and assimilation of food, and sleep, are normal in agitated dementia. In apathetic dementia disturbances of the vegetative processes occur, but they are brought about only by the apathy. Owing to continued lack of muscular movements the circulation is sluggish. The lower extremities become swollen, the face looks bloated. The lack of physical exercises causes heart weakness. These evils can be obviated by proper care, a proof that they are due to the apathy, not to the dementia as such.

Sometimes the question is to be decided how long a patient has been demented, whether his dementia has existed since earliest youth, or has commenced at a later age. To arrive at a decision fragments or remnants of a former education are to be sought after. Sometimes the patient surprises his observer by uttering Latin or Greek words or some scientific technical terms. After

the detection of such fragments of former schooling and learning there is no doubt that the patient was in full possession of his mental faculties at least until the age when higher educational accomplishments are attained.

Differential Diagnosis. It is possible to confound secondary with primary dementia. But the anamnesis reveals that the former has been preceded by a psychosis, the latter by some other acute disease. In the absence of an anamnesis, the differentiation can be made only by a somewhat extended observation of the case. In primary dementia the patient improves quite rapidly, while in secondary dementia even after months no change in the patient's condition is noticeable.

Course and Prognosis. Secondary dementia is incurable. The mental condition of the patients does not improve. On the contrary, observation of the patients, extending over many years, shows that from time to time something of the remains of mental faculty crumbles off, the dementia thus gradually progressing. Unlike other psychoses, for instance delirium, dementia as such never leads to death. If no intercurrent disease supervenes, demented patients may attain old age.

Chapter LXXIX.

PRIMARY MENTAL WEAKNESS, PRIMARY CURABLE DEMENTIA.

After grave infectious diseases or abundant loss of blood the patients may remain in a state of great mental weakness. Although the fever has ceased, and appetite, digestion, assimilation, and sleep are normal again, their vigor of mind is but slowly restored. The psychical func-

tions continue to be sluggish and defective, and thus the patients create the impression of being demented. They are indifferent to everything and everybody around them and poor in ideas. The memory is debilitated, the frequency of volitional manifestations is diminished, the energy is lowered. The vegetative functions, however, proceed fairly well.

This symptom complex, coinciding with that of secondary dementia, is founded solely upon a state of general exhaustion in which the mental faculties have been more unfavorably affected than the vegetative functions, so that the recuperation of the vigor of mind has been rendered more difficult and requires more time than the restoration of the general health.

Course and Prognosis. Primary feeble-mindedness ordinarily ends in restitutio ad integrum and is of comparatively short duration. It is possible, however, that recovery does not ensue and the dementia remains permanent. But such a termination is to be assumed only after the mental weakness has persisted unchanged for a very long time, for many months following the acute disease by which it has been produced.

Differential Diagnosis. The anamnesis is of chief importance in the recognition of primary mental weakness. It shows that a severe acute disease has recently preceded. But also through mere observation of the case primary and secondary dementia can be distinguished from one another. In primary dementia some improvement is already noticeable after a short time, one or two weeks. The patient shows more interest for his surroundings, produces more ideas, displays pleasure at the visit of a friend, etc., while in the beginning he was indifferent to everything. In secondary dementia, how-

ever, even after a year no change in the patient's mental condition is perceptible.

THERAPY. Owing to the favorable progress of the vegetative functions the treatment does not offer much difficulty. The patient should not receive too much alcohol as a stimulant. In intellectual respect care must be taken that the patient is not overtaxed in the least. When he begins to manifest some interest in his surroundings, to show that he is not indifferent to the call of a friend, etc., relatives and attendants should not think that they ought to animate and exhilerate him as much as possible, to allow him to receive as many friends as he would wish, to let him hear all kinds of news, etc. On the contrary, it is necessary to be reserved. The patient's mental powers must be spared and not tasked much.

SECTION II.

MENTAL DISEASES DATING FROM EARLIEST CHILDHOOD, IDIOCY, CRETINISM

Chapter LXXX.

DEFINITION, CLASSIFICATION, AND PHYSICAL STIGMATA OF IDIOCY.

Individuals who have been affected with cerebral diseases either in foetal life or as very young children and in consequence thereof are afflicted with mental defects traceable to early childhood are designated as idiots.

A young child may acquire an acute psychosis in the same way as an adult. When the sanity of the child is not fully restored, but permanent feeble-mindedness, more or less pronounced, results from the psychosis, the child becomes an idiot. In idiocy, therefore, we are dealing with deficiencies of the mind, not with acute psychopathological processes. The mental defects remaining after acute psychoses of adults constitute the clinical picture of secondary dementia (Ch. 78, p. 189), acute psychoses of young children, however, produce idiocy unless complete recovery takes place.

Idiocy presents itself in many gradations which have been divided into two principal classes, namely superior idiocy and inferior idiocy, the faculty of speech furnishing the dividing line. Idiots who do not speak at all or very little have been called inferior idiots, those who master the language perfectly or almost so have been

designated as superior idiots or imbeciles. Among the latter are also counted individuals who manifest a single mental defect and are otherwise normal, for instance, patients affected with moral insanity, querulous insanity, originary insanity, sexual perversity. Etiologically cretinism has been separated from idiocy. Cretinism comprises a sum of physical and mental defects attributable to a definite territorial cause, i. e., to conditions of the soil prevailing in a certain region (p. 214). Every cretin is an idiot, but not every idiot is a cretin.

In somatic respect some idiots exhibit physical signs from which their idiocy may be inferred. Especially the configuration of the skull is apt to betray idiocy. Macrocephalia, microcephalia, and obliquity of the skull are met with in idiots. These anomalies are sometimes due to premature synostoses of cranial sutures. Macrocephalia is brought about by hydrocephalus in early childhood or by meningitis with abundant secretion of cerebrospinal fluid. The brain is smaller than normally in microcephalia. If it appears larger, this is due to a widening of the cerebral ventricles through hydrocephalus internus.

The features of the face, quite normal in childhood, become sometimes irregular at the age of puberty. A disproportion arises between the facial and cerebral parts of the skull, producing an unsightly appearance, which may be still more enhanced by the presence of a large goitre.

Impairment of the general growth of the body occurs in idiocy; some idiots remain dwarfs.

Other somatic defects met with in idiots consist in motor disturbances. Some idiots are affected with pareses or even with complete hemiplegia. With the latter

motor disturbance there is usually associated an asymmetry of the skull, the heterolateral cranial half being smaller than the homolateral. An eventual autopsy shows that one cerebral hemisphere is reduced in size, while the cerebellar hemisphere of the same side is either smaller or larger than normally.

Some idiots are affected with epilepsy. A vicious circle is thus established. For epilepsy itself reduces gradually the mental faculties. Epileptic idiots show, therefore, a progress of their psychical defects. This can be recognized when there is opportunity to observe such patients in their early youth and at a later age.

In some cases of idiocy the autopsy reveals pronounced loss of cerebral substance, porencephalia.

Chapter LXXXI.

INFERIOR IDIOTS.

The inferior idiots are characterized by great impairment of speech. All their psychical faculties are more or less defective. In the affective sphere they resemble small children. They are very irritable, weep at the slightest cause, and fall readily into despondency. They are devoid of the finer gradations of feeling so numerous in well-developed individuals. They lack the wealth of emotions of normal persons, being capable only of the extreme emotional manifestations, such as unbounded exultation, pain, wrath, despair, etc. Of ethical notions, of conceptions of filial love, decency, honor, duty, there is no vestige in them. They are wanting even in such expressions of the affective sphere as

are met with in some animals, for instance gratitude, attachment, faithfulness.

The power of understanding is considerably lessened. The intelligence of the inferior idiots is so low that they are unable to repeat words when urged to do so. They hear sounds, for it is possible to demonstrate that they are not deaf, yet they do not retain in mind the auditory images necessary for speech. Some inferior idiots learn to know the names of things. Requested to bring a certain object they would fetch it, but they cannot repeat the name of the object when it is pronounced before them, and this not because they are affected with paralysis of the motor organs of speech, but because they lack the energy and understanding needed for an attempt to repeat words.

The inferior idiots speak, after the manner of small children, in infinitives.

A remarkable symptom of inferior idiocy is the want or defectiveness of self-consciousness. A child learns quite early to distinguish its own person from the external world, i. e., it acquires self-consciousness (p. 28). It arrives at knowing the little word "I." Small children when asked who has done this or that would reply with their name instead of saying "I." As they advance in intelligence, they begin to answer with "I," showing hereby that they have reached a fair degree of self-consciousness. Many inferior idiots remain on the first stage, speaking of themselves in the third person.

The low intelligence of inferior idiots becomes very obvious by their failure to recognize and shun evils which they have experienced a short while ago. The inferior idiot will touch the red hot coal which has just given him a painful burn.

The memory of inferior idiots is, as a rule, as poor as their intelligence. But in some instances it is remarkably good, in striking contrast with the other mental faculties.

In the volitional sphere the inferior idiots display an impulsive character. They are unable to control themselves. A trifle may throw them into great agitation. Sometimes they would run about wildly in the room or they would sit and constantly make rocking movements. They are wavering, fickle, incapable of acting with design and deliberation. When they accomplish some mischief, they do it without preconceived intention. Sometimes, however, they exhibit great perseverance in the execution of certain acts (p. 85). Some idiots have a predilection for fire and may hereby cause arson. There is nothing specific in this symptom. Children, too, are fond of fire; they like to light matches. Characteristic pyromania is, therefore, not to be ascribed to inferior idiots. The entire volitional sphere of inferior idiots is characterized by unbridled passions.

It is chiefly the inferior idiots who exhibit the physical stigmata and other somatic disturbances, such as asymmetry of the skull, pareses, epilepsy, etc., which have been mentioned in the preceding chapter.

Chapter LXXXII.

SUPERIOR IDIOTS, IMBECILES.

The superior idiots or imbeciles differ from the inferior idiots by the faculty of speech. As a rule they possess an adequate knowledge of language.

In the affective sphere the extreme emotional mani-

festations prevail. The imbeciles are very excitable, readily susceptible of grief and anger. Such emotions reach extraordinary intensity. A trifle makes the imbeciles chafe with fury. The emotions last unusually long. The imbeciles persist in an emotion of fierce wrath or deep sadness for hours and days. In such a frame of mind they are apt to commit dangerous acts. A good many cases of suicide are to be ascribed to imbecility.

There are no marked defects in the ideational sphere. On the contrary, some imbeciles are endowed with an excellent memory and are thus enabled to acquire a great wealth of experiences which they have readily at their disposal (pp. 62-63). But the intelligence of the imbeciles is defective and their memory is one-sided. It works mechanically without selection, retaining the entirely insignificant things just as well as the most important ones. The former would not impress themselves on a memory which is aided by a good understanding and, therefore, capable of separating the things to be kept from those to be cast aside as of no value.

Owing to their marvelous memory, many superior idiots are not recognized as such in school, but, on the contrary, are considered to be very gifted pupils. This mistake occurs especially when they are somewhat good-natured, not obstinate, and their irascibility is slight. A closer examination, however, reveals that the talented imbeciles lack the proper understanding of what they have studied, that they have learned everything in a mechanical way, by heart, and reproduce, like a dictionary, other people's opinions and judgments which are always at their disposal because of their unfailing memory (p. 63).

Ordinarily, however, the education lays bare the

mental defectiveness of the imbeciles. Imbecile children cannot adapt themselves to order and rule, cannot bear censure, much less punishment. When they are chastised, they become morose and stubborn, do not know at all what is going on, and are thrown into emotions of blind rage rendering them entirely irresponsible. It is, therefore, not conducive of good, and may even be detrimental, to punish imbecile children. When they are locked up for ill behavior, they are apt to jump out of the window with fatal consequence.

Imbeciles are incapable of imbibing certain conceptions. Although they have heard of duty, honor, friendship, filial love, etc., and know the terms well, they are not fully alive to them. Normal persons having acquired these ethical conceptions through education and association experience a certain feeling, are put into a certain mood, whenever their mind is turned upon such ethical subjects. This feeling influences all their actions. Imbeciles, however, lack the normal affective tones accompanying ethical ideas and are, therefore, unable to conform their conduct accordingly. No sense of duty is inculcated upon their mind notwithstanding the best education they may have received. They cannot abide in a situation for any length of time, but crave for one change of occupation after the other. This fickleness and unsteadiness in desires and aims appear as an early symptom. Imbecile children are very prone to run away at random. They escape from their parents or simply do not return home from school. When they grow older and assume situations, they do not keep them very long. Suddenly they decamp without any valid reason. At the slightest disagreeable occurrence they abandon their work and leave without any regard for the future. Sometimes

they would abide by one occupation for a longer while, perhaps for a year or so, but then they would change it too. By this want of perseverance imbecility may be recognized even in such cases where it is of a slight degree.

Individuals of mental inferiority have a high opinion of themselves, think that their knowledge is great, and are self-complacent, while normal persons, even if they have studied very much, feel with a sort of dissatisfaction and are conscious that they know little in comparison to what they still have to learn.

The mental inferiority of imbeciles is easily recognized when they are placed in a situation requiring strict submission to prescribed rules, as the military service. In the beginning they may conduct themselves fairly well, but after some time they usually become unmanageable. They cannot observe the requisite discipline and contract punishment after punishment. This, however, fails to make them reform their ways so that they remain incorrigible.

When however imbeciles are living in simple circumstances, their psychical defectiveness may pass unnoticed. Should such individuals become subject to legal consideration, it would be very difficult for the medico-legal expert to prove to the judge that he is dealing with imbeciles. Since the imbeciles know the ethical conceptions only by name, they frequently come into conflict with the Penal Code through vicious acts committed in emotional fits, through offenses against morality, through arson executed for revenge, etc.

In somatic respect the imbeciles usually show no deviation from the normal. In some cases microcephalia is met with or an excessive thyroid gland with cystic

degeneration. The whole physiognomy then presents a certain peculiarity from which mental inferiority may be inferred. The autopsy of imbeciles sometimes reveals a diminution of the weight of the brain or a division of one of the frontal convolutions, the number of which is thus increased to four. Defects of the corpus callosum are found in some cases.

The family physician having convinced himself of the imbecility of a child should call the attention of the parents to its mental weakness and advise them to regulate its education accordingly. An imbecile child must not be overtasked. Chastisement for disobedience or ill behavior must never be resorted to. For severity renders the imbecile still more inflexible, and nothing can be accomplished by it. Great difficulty is encountered when there are normal children in the family. Removal from home of the imbecile child is then called for by all means. To put imbecile children into an asylum for idiots is not advisable. For in such an institution they are liable to come in contact with inferior idiots which may be harmful to them. Special institutions, therefore, ought to be established for the education of imbeciles.

Imbecile children who are reared in their own homes grow up to be the worst elements of society. The family physician ought to write down his observations of an imbecile child in the form of documentary records. They may become very useful in the future when the adult imbecile is summoned to court to answer for misdeeds.

Chapter LXXXIII.

MORAL IDIOCY, MORAL INSANITY.

Of all the idiots those affected with moral insanity have sustained the least impairment of mental capacity. They show defects only in moral respect, but otherwise they are entirely sane. Formerly, and frequently nowadays, the moral idiots were treated as criminals. Indeed, it is very difficult to draw the dividing line between those suffering from moral insanity and those imbued with moral depravity. Yet the differentiation is very important. For the moral idiots are unfortunate patients who could not justly be called to full account for their misdeeds, while the morally depraved individuals are responsible.

The symptoms of moral idiocy relate exclusively to the affective sphere. The patients are not influenced by ethical conceptions in the same way as are normal persons. The actions of the latter do not depend solely upon understanding and reason. Any experience, any idea arising in consciousness, any recollection of former events and situations, produces in normal persons certain alterations of the affective state, certain feelings. Especially ethical ideas are accompanied by impressive feelings. These latter more than anything else are the chief cause of normal persons acting in conformity with ethical principles. There are, however, individuals in whom ethical ideas fail to call forth the feelings they normally give rise to. Such individuals lack the foremost incentive to live up to ethical requirements. Again other individuals receive the normal affective tones from actual occurrences, but not from the recollection of such occurrences. Thus they grieve very much at a restriction of

their freedom and promise solemnly to desist henceforth from any act that would deprive them of their liberty. Notwithstanding this keen feeling aroused by actual imprisonment the recollection of a former imprisonment leaves them entirely indifferent, being devoid of the normal affective tone associated with such recollection. These individuals experience no feeling when they see an evil approaching. Not before they are in the midst of the painful situation do they feel grieved at it. Such patients may have had ever so many severe lessons, the remembrance thereof will not keep them back from actions which they know very well will make them undergo again the same distressing experiences.

Moral idiocy is characterized by *"want of educability."* This pathognomonic feature can be demonstrated in all cases where efforts have been made to give the individuals in question a good education. "Want of educability" is no meaningless term, no vague trait that may be overlooked, but a distinct symptom presenting itself forcibly to the attention of the observer. It can be shown that a boy, morally defective, has had the same education as his sane brothers and sisters, has been cherished with the same love, has been censured, not to say punished, with the same tender caution, or even that in his education more care has been employed than with the other children of the family. Yet all attempts to make him a useful member of society have remained without avail, while his brothers and sisters have acquired good manners and character. This is "want of educability." A few concrete examples will illustrate the matter more clearly. A prominent psychiatrist relates a case in which a widow had taken great care to educate her only son, who was very naughty and insubordinate.

But all her endeavors remained unsuccessful. Finally she applied to the director of a well conducted educational institution. He consoled the worried mother, assuring her that he would get the better of her unbridled son. For he had had worse cases in which he had made good men out of refractory boys who had appeared to be incorrigible. He took the boy into his institution. But a few months later he wrote to the unhappy mother that he had been mistaken in her son. All educational means to improve his character would be futile. He had no conception of filial affection, honor, duty, etc., and was indifferent to exhortation and reproach and insensible to punishment. For the sake of the other pupils he would have to be removed from the institution as soon as possible. This is "want of educability." In another instance a boy of a good family had been expelled from several schools and had subsequently remained unruly. Finally his relatives succeeded to put him into the army and to have him assigned to a regiment the colonel of which was a friend of the family. He promised to educate the young man. The military institution has excellent educational means at its disposal and subdues many a young man apparently uneducable. One day our young soldier did not appear at a military review. The colonel sent the strict order that he should present himself forthwith. This peremptory command put the soldier into a state of sullen stubbornness, and he flatly refused to obey the order, although he well knew the imminent punishment. The incident was, however, purposely disregarded and he was not disciplined. Later he stole money from a military office and was punished by confinement in a fortress. He finished his military service without showing any improvement of character. Thereupon an uncle of his ad-

vanced the statement that his nephew was so wicked because he had never enjoyed a proper education. A person of his disposition, he contended, ought to be dealt with very leniently. He took his ill-bred nephew into his house, proposing to make a good man of him. But his attempts at education remained entirely fruitless, and he finally had to admit that his nephew was lacking the slightest feeling of gratitude, tact, and honor and was incorrigible. Subsequently the young man was committed to an insane asylum. The director of the institution declared him to be a moral idiot. In the asylum his conduct was very satisfactory. He soon opened a correspondence with another uncle of his, sending him the nicest letters. The uncle began to remonstrate with the authorities of the insane asylum on the detention of his nephew, contending that there is no such mental disorder as moral insanity. He was finally coaxed by the gentle and deferential writings of his nephew into removing him from the insane asylum and taking him into his country home. The young man conducted himself fairly well until he once chanced to open a drawer containing money. Instantly he grabbed the cash and escaped unnoticed. He came to the city and squandered the money in company with the servants of the insane asylum. All this proves incontestably that the recollection of the many adversities and penalties had failed to arouse in the patient any feeling whatsoever. This is "want of educability." When this symptom, which extends over many years, can be established, the diagnosis moral idiocy becomes unquestionable.

If however no attempts at education have been made, or, on the contrary, the individual in question has grown up in pernicious environment and has been corrupted, it

may not be possible to differentiate moral idiocy from moral depravity. A slight hint may perhaps be gained by taking into consideration that even uneducated scamps and criminals have some sense of companionship and friendship, some feeling of honor, a certain willingness to make sacrifices for others, while the moral idiots are devoid even of such traits.

Want of the affective tones which accompany ethical ideas is common to plain imbecility and moral idiocy. But in the latter it forms a predominant feature. Besides, in moral idiots intelligence and emotions are quite normal, while in imbeciles the intelligence is deficient and the emotions are of frequent occurrence and of extraordinary intensity and duration. It is hardly possible, but practically of no importance, to distinguish moral idiocy from cases of imbecility in which emotions are little prevalent and a good memory hides the deficient intelligence.*

As to the management of moral idiocy it must be borne in mind that punishment of the patients is not conducive of good.

* In the case described by B. S. Talmey (*Medical Record*, Nov. 16, 1907) the imbecile traits are so little pronounced that the patient is to be considered a moral idiot rather than a "high-grade imbecile" (superior idiot). This case is mentioned here because of the remarkable somatic anomaly, or physical stigma of cryptorchism. The patient had only one testicle. The other could not be found even at an abdominal operation which he had to undergo.

Chapter LXXXIV.

QUERULOUS INSANITY, MORBID LITIGIOUSNESS.

Querulous insanity is based on a defect in the feeling of right and wrong. Some people are of a contentious disposition. They seldom admit being in the wrong even when they know that they are mistaken. But the disputatiousness of a sane person has its limits. He is sensible of his errors and confesses them to himelf although he does not do so to others. The querulous idiot, however, does not feel his errors. Even after they have been clearly and incontestably demonstrated to him, he thinks in his own heart and soul that he is right.

The querulous idiot, about to commence a legal action, cannot conceive of the possibility that the court is apt to decide in his disfavor. The consideration never enters his mind that essential right cannot be upheld unless formal right is carefully observed. An honest person, for instance, may suffer punishment by court through malicious people who perjure themselves. The judge has to inflict a penalty on the defendant in such a case. A rational person would excuse the court, realizing that the judge is not omniscient, that he has to act according to certain formal principles. He would consider the decree of penalty as correct in the common order of things, as a misfortune for him in which he has to acquiesce. The querulous idiot is unable to reason this way. According to his feeling the administrator of justice has to exculpate him notwithstanding all evidence to the contrary. When he is adjudged guilty, he considers himself ignobly treated by the judge and is reluctant to abide by his judgment. He cannot persuade himself that

society must have an institution to decide controversies, and that its decisions must be obeyed.

The outbreak of querulous insanity depends on an accident, on an insignificant trifle. The patient, for instance, walks over a place where thoroughfare is prohibited. A small fine is imposed on him for the tresspass. In this he does not acquiesce and makes all kinds of efforts to prove that the prohibition was unjust. When the court decides again in his disfavor, he declares that the judge has been bribed. Now he is sentenced to a penalty for defaming the judge. Again he does not submit to the verdict and appeals. In this way after his first collision with the courts he cannot extricate himself from lawsuits. He goes from one court to the other until the court of last resort, and finding nowhere satisfaction, he threatens to obtain redress by force.

A forcible criterion for the morbidity of a case of litigiousness lies in the patient's utter indifference to the welfare of his family. He is willing to give up his whole fortune, to endanger the subsistence of those dependent upon him in order to get his pretended right. Another criterion of morbidity is the extreme irritability which the litigious imbecile displays whenever the conversation turns upon his lawsuits. He cannot bear any contradiction whatsoever, and the slightest difference of opinion drives him out of his wits. Finally querulous insanity may be inferred from a symptom which extends over many years. In the course of time the intellectual powers of the querulous imbecile decrease, so that he passes into a state of feeble-mindedness. This is an important point for the distinction of a sane litigious person from a querulous idiot. Besides, the former would abandon

his lawsuits when he sees that he puts all his fortune at stake.

The querulous idiot finally lands in the insane asylum. In the beginning he is not one of the most agreeable patients. But after some time he ceases to insist upon his pretended rights when he sees that otherwise he would not be dismissed from the asylum.

Chapter LXXXV.

ORIGINARY INSANITY.

Originary insanity resembles primary insanity (Ch. 75, p. 176). Like the paranoiacs the originary idiots also compose romances in which they themselves play the principal part. But originary insanity is founded upon congenital mental defects and appears already in childhood.

The originary idiots are unable to discriminate between what they are merely thinking of, i. e., their memory images, and that which their surroundings present to their senses, i. e., their actual perceptions. To a slight degree this quality is met with also in normal people. Even a sane person does not always apprehend things objectively, but frequently there is a subjective tinge in his observations. Children dream in an awake state. Without hallucinating they would point at objects, not present, which they are merely thinking of. The normal person, therefore, not only views the external world subjectively, but even passes through a period in which he mistakes his memory images for objective phenomena. The originary idiots do not get out of this period at all.

They build castles in the air and believe in their existence. In all sincerity they relate that they have participated in great events which have never taken place. The position they fancy to be in is in striking contrast with reality.

Patients affected with originary insanity may be very intelligent in other respects. But they are unsuccessful in life and shun society, and in their isolation they would manifest other symptoms of morbid mentality. There is a hereditary taint of insanity in their family, and some patients are descended directly from insane parents.

Chapter LXXXVI.

CONTRARY SEXUAL FEELING, SEXUAL PERVERSITY.

The most common manifestation of sexual perversity consists in antipathy against the opposite, and inclination to the same sex. Individuals showing this anomaly are affected with a defect in the sexual sphere, with contrary sexual feeling. But a difference is to be made between those afflicted with sexual perversity as a disease and those who indulge in all kinds of sexual aberrations in consequence of surfeit in Venere and in allegiance to the principle "variatio delectat." Patients with contrary sexual feeling do not marry. When, unmindful of their abnormal condition, they do contract a marriage, they are unable to fulfill their marital duties.

Contrary sexual feeling occurs also in women.

Pederasty is prohibited in many States. Patients suffering from sexual perversity, therefore, frequently come into conflict with the Penal Code. Non-freedom

of the will is usually not recognized as a defense for pederastic aberrations, so that patients found guilty of such misdeeds have to undergo the full penalty of the law in the same way as persons with normal sexual feeling convicted of pederasty.

Although treatment of contrary sexual feeling does hardly come into consideration, the patients may be given some useful advice. They may derive some benefit from an emphatic representation of the dangers of infection, theft, and robbery with which they are threatened by indulgence in their vice as much as, or even more than, men seeking the company of female prostitutes. They may heed the warning when they are shown how their devotion to male prostitutes is apt to expose them to the vilest sort of blackmail. For pederasty being treated as a serious crime, the male prostitutes make use of this penal statute to practice ruthless extortion upon their unfortunate victims.

If the patient would not listen to the warnings of his physician, the only advice he can give him is to settle in a State in which pederasty is not considered a punishable offense.

In some States in which pederasty is prohibited the Penal Code does not provide punishment for inchastity between men when no imitatio coitus has taken place. The penalty is more rigorous in those cases in which pederasty has been practiced on individuals under a certain age. It is further very severe when the defendant has satisfied his unnatural desire with an individual to whom he stands in an educational relation, being his guardian or his teacher, etc.

In forensic proceedings dealing with sexual perversity it is important to demonstrate that the defendants

are suffering from defective sexual feeling, as in this case the court would grant clemency. It is, therefore, useful to know that men affected with contrary sexual feeling address their male paramours by female pet names in speech as well as in writing. For the public prosecutor may try to refute the defendant's plea of contrary sexual feeling on the ground that his letters containing female names prove that he has kept up amatory relations with women.

The following case is interesting. A man affected with contrary sexual feeling married a woman and even begot children with her. Later he had to appear in court to answer for pederasty. The prosecuting attorney objected to the plea of contrary sexual feeling, adducing the fact that the defendant had even been able to beget children. Thereupon the defendant alleged that he had married a woman whose appearance was strongly masculine, and that he had succeeded to practice cohabitation by intensely thinking of a male paramour during the act. The court accepted the defense and granted clemency.

Chapter LXXXVII.

CRETINISM.

Cretinism has been defined as endemic idiocy. But idiocy occurs endemically, and yet the patients cannot justly be called cretins. Virchow amplified, therefore, the above definition by designating cretinism as endemic idiocy based on territorial factors, i. e., on conditions of the soil prevailing in a certain region. There are many causes for idiocy other than those which directly depend

upon the territory in which the idiotic children are born and reared. Some children become idiots owing to their descent from debauched, insane, or alcoholic parents, or owing to injuries received at birth, to insufficient nutrition in infancy, to severe infectious diseases. These etiological factors have little to do with the soil of the territory. They may be comprised under the term social, because they depend largely upon the character and habits of the parents or the customs of the population. But it has been observed that families in which these causes could not be established, and in which healthy children had been born, brought idiotic children into the world after they had transferred their domicile into certain regions, and having removed from these regions, produced anew healthy children. The idiocy must, therefore, have had a territorial cause. Localities in which cretinism is endemic are met with in Switzerland, in the Pyrenées, in the Spessart mountains, etc.

In former times the cretins were regarded as satanic prodigies, coming from the union of the devil with a human female. The superstition also prevailed that the devil would change healthy children, leaving monsters in the cribs after stealing the children—"changeling," "Wechselbalg." Nowadays we have to look for a natural explanation. Since cretins are very frequently affected with goitre, i. e., enlargement and degeneration of the thyroid gland, the assumption of a causative relation between defectiveness of this organ and cretinism is not unjustified. This assumption is corroborated by the observation that patients who have lost the thyroid gland through an operation pass into a state resembling cretinism. It appears, therefore, plausible that pathological alteration of the thyroid gland would have the same

effect as its extirpation through an operation. Kocher arrived at this conclusion and considered cretinism a cachexia strumipriva existing since early childhood.

There is no more hideous and horrible aspect of a human being than the one presented by the cretin. The skull is deformed, asymmetrical, the root of the nose is deeply constricted, the upper jaw protrudes considerably —prognathism (p. 111)—the skin, consisting of an excess of fatty and oedematous tissue, exhibits, especially on the face, a peculiar offensive appearance—myxoedema. The unsightliness of the cretin is still more enhanced by a large goitre. The general growth of the body is reduced—nanism, dwarfishness. The genital organs show faulty development. Besides these somatic anomalies, cretinism is characterized by dementia of a high degree. In the worst cases the dementia is so great that the patients are unable to keep themselves clean, to take food, to learn to speak a word, etc.

The answer to the question how the deformities of the skull and the constriction of the nasal root are brought about, may help to explain the immediate cause of cretinism. Virchow teaches that in cretins the base of the skull is too short, having undergone premature arrest of development, while the rest of the skull has continued to grow. The constriction of the nasal root is the result of the shortening of the base of the skull. The growth of the skull takes place chiefly at the synchondroses intersphenoidalis and sphenooccipitalis. The shortening of the cranial base is due, according to Virchow, to premature synostosis of these two synchondroses. And, indeed, he succeeded to demonstrate an ossification of these places in the skull of new-born cretins. This finding establishes his theory incontestably. The cause of this premature

ossification probably lies in a pathological alteration of the thyroid gland, produced by unknown territorial factors. The faulty growth of the skull leads to developmental disturbances of the brain which cause cretinism.

To cure the surgical cachexia strumipriva the attempt has been made to introduce into the system the active principle of the thyroid gland of which the system had been deprived by the extirpation of the gland. The patients were fed with the thyroid gland of the sheep, and this with some good result. It is, therefore, advisable to try such therapeutic measures also in cretinism.

The best way for the State to prevent cretinism is to urge and help the inhabitants of the regions in which the disease is endemic to settle in other localities.

SECTION III.

DIATHESES OF INSANITY

CHAPTER LXXXVIII.

HEREDITARY PREDISPOSITION TO INSANITY, HEREDITARY INSANITY.

Hereditary predisposition to insanity consists in diminished power of resistance of the whole organism, and especially of the central nervous system. Individuals affected with hereditary predisposition to insanity are liable to contract psychoses even in consequence of physiological processes. When the hereditary predisposition is intense, feeble-mindedness may appear already in infancy. When it is of a slighter degree, the sanity may not suffer any harm until puberty. With the oncoming of puberty certain physiological processes take place in the system causing a state of unrest and disturbed mental equilibrium. Systemic alterations which have no injurious effects on persons free from hereditary taint beyond causing a transitory state of uneasiness and increased excitability, call forth psychoses in those affected with hereditary predisposition. The systemic disturbances of puberty affect adolescents having no hereditary predisposition to insanity only in a slight measure, but may produce psychoses in individuals whose power of resistance is reduced through heredity. If they are fortunate enough to pass this precarious period without harm to their mental health, disorders of the mind may appear in

consequence of other physiological perturbations occurring at a later age. Thus women with hereditary predisposition to insanity may become mentally ill during pregnancy, and more so during puerperium and lactation.

Hereditary insanity, therefore, has this characteristic feature that it may be brought about even by physiological processes. It is further marked by a favorable prognosis of the first attack. The first psychosis on a hereditary basis is of short duration, and complete recovery usually ensues. But since the nervous system of one who has gone through a phychosis is anything but strengthened or rendered immune against mental disease, patients with hereditary predisposition to insanity are subject to repeated psychopathic attacks. A third characteristic of hereditary insanity, therefore, consists in frequent relapses. Recurring hereditary insanity shows the periodic or the circular character (p. 126). In the first case the same clinical picture of mental disease is repeated after a period of well-being, in the second case different clinical pictures alternate. The prognosis of recurrent hereditary insanity is very unfavorable. The patients finally pass into a state of permanent feeble-mindedness, of dementia (Ch. 78, p. 189).

Chapter LXXXIX.

HYSTERICAL INSANITY.

A frequent foundation for insanity is supplied by the neuroses, among which hysteria takes a prominent place.

The mental constitution of hysterical individuals differs distinctly from that of normal persons, yet they are not to be regarded as insane. But in many instances

the hysteria is of such intensity that the patients are fit subjects for the insane asylum.

The chief characteristics of hysteria consist in extraordinary irritability and in frequent and sudden fluctuations of the emotions. The hysterical patients confirm the poet's words: "Himmelhoch jauchzend, zum Tode betrübt." From the greatest cheerfulness they may quickly pass into such despondency as to harbor ideas of suicide. Another trait of the hysterical character is extreme egotism. Hysterical patients are inconsiderate of others. Behind the mask of charity, self-sacrifice, and all the other virtues they practice is hidden excessive love of self. They are charitable to be attractive, self-sacrificing to be interesting, and perform all kinds of extraordinary acts to excite the attention of relatives and neighbors. Some hysterical patients refuse food, or open their arteries by biting, or do not leave their bed for months, etc., in order to awaken interest and sympathy.

The great sensitiveness of hysterical patients may become the source of hallucinations. When the latter supervene, the picture of a pronounced psychosis is completed. Hysterical insanity, in a way, represents the intensification of the characteristics of hysteria.

The clinical pictures of hysterical insanity are manifold. Some patients are laboring under raving agitation, the sexual factor playing a prominent part. Women suffering from hysterical insanity display great irritability and repugnance towards individuals of their own sex, but are friendly and even obtrusive towards men. The vehement excitement of the insane hysterical patient disappears very rapidly. To-day she is in the greatest restlessness, tears her clothes, dishevels her hair, soils her face; to-morrow she is in her gala-costume.

Hysterical insanity may appear in the form of paranoia with hallucinations and delusions of grievance and furtherance.

Melancholic excitement, or better, raptus melancholicus, is not infrequent in hysterical insanity. There may be an external cause for the melancholic depression, but it is out of proportion to, and entirely insufficient to explain, the intensity of the depression. The melancholic fit passes away in a few days. For it is peculiar of hysterical insanity that the emotional attitude changes very rapidly.

Hysterical insanity sometimes presents the picture of delirium appearing in spells during which consciousness is more or less disturbed.

The prognosis of hysterical insanity is favorable as to recovery from an individual attack, but unfavorable regarding the recurrence of mental disorder. An attack that has been preceded by many others may result in permanent dementia.

Patients suffering from hysterical insanity may come into conflict with the Penal Code and are liable to be held responsible for their wrong actions, the more so as they create the impression of being sane and even intelligent. Female patients become implicated in affairs of blackmail having a sexual background. A hysterical patient, for instance, calls on a man in high position, and having been admitted to his presence all alone she accuses him of improper conduct towards her. A prominent psychiatrist relates a case in which a rich hysterical woman had sacrificed her whole fortune for a church, and then committed embezzlement to be able to continue playing the interesting rôle of patron of a divine institution.

Chapter XC.

PHRENASTHENIA, PSYCHASTHENIA.

Neurasthenia is another neurosis on which mental disorders are frequently based. The patients lack psychical stability, so that unusual strain and untoward circumstances and events easily upset their mental equilibrium. The patients not being insane in the true sense of the word, their morbid mental condition might more appropriately be designated as *phrenasthenia, psychasthenia,* than as insanity.

The predisposing cause of phrenasthenia lies in an inherited neuropathy or weakness of the nervous system. The exciting cause is furnished by infectious diseases, shock, mental and physical overexertion, alcoholic excesses, etc.

The symptoms of phrenasthenia are founded on a defect of inhibition which renders the patients unable to control their ideas, emotions, and impulses. The main symptoms are aboulia (p. 77), compulsory ideas, phobias, doubts (Ch. 35, p. 68), imperative impulses (Ch. 42, p. 86). One of these symptom groups may predominate and thus impart its peculiar character to the clinical picture. In this way phobic, doubting, impulsive phrenasthenia may be distinguished. Sometimes phrenasthenia resembles paranoia with delusions of grievance, in other instances depression and anxiety prevail so that the patients appear to be suffering from melancholia. In long standing cases the compulsory ideas may give rise to hallucinations. Phrenasthenia may have the hypochondriacal character, the patients believing to be affected with all kinds of physical ailments, such as a defect of

the heart, ulcer of the stomach, tumor of the liver, softening of the brain, etc.

The phrenasthenic patient is well aware that his mental condition is morbid. This insight into the disease (pp. 128, 129), which contributes to the distinction of phrenasthenia from true insanity, adds to the suffering of the patient. It keeps him in constant fear of becoming a victim of lunacy. To avert this fate he looks everywhere for help. He consults one physician after another, and is dissatisfied with, and denounces all of them when they fail to relieve him from his worries, fears, compulsory ideas, hallucinations, etc.

Somatically the patients decline a good deal. They lose weight and emaciate, owing to impairment of sleep, appetite, and digestion.

The prognosis of phrenasthenia is favorable. Even when an attack has lasted one or two years, complete recovery takes place. But since the neuropathic disposition subsists after the first attack, at least in the same intensity as before, the patients are subject to repeated attacks of mental disorder. Phrenasthenia as such does not lead to dementia. But true insanity may develop on the neurasthenic basic, and then it depends upon the severity of the case whether or not permanent feeble-mindedness results from the psychosis.

The treatment of phrenasthenia consists chiefly in physical and mental rest which is best procured by removing the patient from his accustomed surroundings and placing him into a proper sanitarium. Nutritious food and tonics are helpful.

Chapter XCI.

DEMENTIA PRAECOX.

While the mental diseases treated in the preceding chapters seldom lead to intellectual enfeeblement, to dementia, there are several forms of constitutional psychoses, occurring chiefly at the ages of puberty and adolescence, which are characterized by a progressive intellectual deterioration resulting in permanent dementia. Indications of this impairment of intelligence being noticeable as early as the initial stage, these psychoses, though differing considerably in their clinical pictures, have been comprised under the general term *dementia praecox*. The histological examination of the cerebral cortex in these psychoses reveals a definite pathological process involving the microscopical cortical elements. In other constitutional psychoses, however, the pathologic-anatomic finding is negative.

The most important etiological factor of dementia praecox consists in a hereditary taint. It can be demonstrated in the majority of the cases, according to some authors in 75 per cent. The exciting causes are the same as in other forms of insanity, namely infectious diseases, physical and mental overexertion, fright, shock, excesses, and physiological perturbations of the system. Autointoxication has also been adduced as a causative factor.

Symptoms. In childhood the patients frequently exhibit various eccentricities. About the time of puberty pronounced psychopathological features make their appearance.

A characteristic early symptom of dementia praecox is the impairment of the affective sphere, commencing

with the disappearance of the finer affective tones. The patient becomes listless, neglectful of his own person and indifferent to friends and relatives, and loses all ambition. His countenance often bears a dull expression which is at times changed into a silly smile that soon disappears. In the later stages the affective sphere is entirely desolated (Ch. 17, p. 36). The usual affective state of indifference and apathy is sometimes interrupted by periods of irritability during which impulsive outbreaks occur.

The ideational sphere is frequently marked by delusions. They usually bear the stamp of absurdity (p. 55) and are strengthened by hallucinations, especially of hearing. The association of ideas is inordinate. In conversation the patient would jump from one thing to another entirely disconnected. The whole ideational process is characterized by desultoriness. The natural congruity between the ideational contents and the affective state is wanting. The patient, for instance, would manifest cheerfulness while affirming to be depressed or he would weep at a joyous idea arising in his consciousness—paramimia (Ch. 39, p. 81).

The power of memory diminishes gradually. For remote events it remains fairly well preserved for a long time. Deficiency of memory concerning recent occurrences is noticeable already at an early stage. Sometimes the failure of memory is surprising. The patient would state correctly his age, year and date of his birth, but would be unable to recall his name.

Disturbances of the volitional activity form a prominent feature of dementia praecox. Various inordinate and purposeless movements indicate the deterioration of the will power. Ties, i. e., queer, abrupt movements of muscles or muscle groups, especially of face, neck, and

upper limbs, are frequently observed in the precocious dements (Ch. 38, p. 79). Often the patients exhibit stereotypy, verbigeration, mannerism. They remain in one posture or repeat the same movement for any length of time. They eat, speak, and walk in a peculiar affected manner. They use high-sounding, outlandish words and reiterate the same phrase many times. Sometimes they speak and write in doggerels, the style of which is foolish and bombastic. In advanced stages the patients jabber for hours and days, repeating senseless words and syllables over and over again.

The abnormal motor phenomena mentioned above are frequently associated with negativism, i. e., nonsensical resistance to every influence (Ch. 40, p. 82). The patient recedes when a friend approaches him. He hides in a corner, in a closet, or under the bed when the physician calls on him. He declines to fulfill the most reasonable request and even does just the opposite of what he is asked to do. When requested to show his tongue, he presses his teeth together. He even does not comply with his physical needs, refusing to take nourishment, to void urine, or to evacuate his bowels.

Hypersuggestibility is another defect of volition met with in dementia praecox, sometimes together with negativism (Ch. 40, p. 82). The patient responds too readily to incidental influences. The slightest stimulus may call forth a reaction, many movements thus appearing to ensue automatically. Imitation of actions seen, echopraxia, and repetition of words and phrases heard, echolalia, result from this impairment of the will power.

The psychomotor response of the precocious dement is slow. When a question is put to him, a few seconds may elapse before he makes an attempt to answer it.

Sometimes the precocious dement is unable to answer in a direct manner the simplest questions. He begins to reply, but incidental ideas deflect his train of thought, rendering the answer entirely irrelevant—paralogia, "Vorbeireden" (p. 83).

Finally, volitional disturbance is manifested by lack of self-control. The occasional emotional outbursts lead to violent acts. In a fit of rage the patient may tear his clothes, break furniture, assault anybody crossing his way, etc.

The power of understanding shows a progressive deterioration. This characteristic symptom of dementia praecox is noticeable from the inception of the disease. As the latter advances the patient becomes more and more stupid, his speech nonsensical, incoherrent. In the last stages his utterances form a foolish medley of words, a word-salad ("Wortsalat"). Deficiency of the power of understanding constitutes a prominent feature of dementia praecox in all its stages.

Consciousness is usually clear and orientation is, as a rule, little disturbed. In spells of great excitement the consciousness is somewhat clouded. Stuporous conditions (Ch. 72, p. 159) are frequent in dementia praecox. They are characterized mainly by disturbance of consciousness and volition.

Certain physical symptoms frequently met with in dementia praecox may be of diagnostic value. Apoplectiform and epileptiform attacks occur in this disease in the same way as in paretic insanity (pp. 251, 255). The apoplectiform attacks are sometimes followed by paralyses. Certain convulsive movements are quite characteristic of dementia praecox, as the spasmodic distortions of the mouth (p. 80), rolling of the eyes, wrinkling of

the forehead, etc. These motor disturbances may have some relation to the increased irritability of the muscles, not infrequently observed in the precocious dements. A slight mechanical irritation of a muscle calls forth a long lasting contraction which is visible as a tumor over the muscle, the so-called *idiomuscular swelling*. Tremor is often present. The tendon reflexes are usually increased. The pupils are often dilated and show great mobility which may amount to a pronounced *hippus*. Vasomotor disturbances, such as cyanosis, local oedema, dermography, are frequently seen. At times there is profuse perspiration. Exophthalmic goitre is not rare in dementia praecox.

Dementia praecox appears in three forms, the *hebephrenic, catatonic, and paranoiic*. No symptom belongs exclusively to one form. The division is based rather upon certain symptoms being more prominent in one form than in the other.

Hebephrenic Form. The hebephrenic form of dementia praecox has a prodromal stage of a few years marked by neurasthenic and hypochondriacal symptoms and occasional spontaneous outbursts of temper. The inception of pronounced psychopathic manifestations is slow. This is one of the features which distinguish the hebephrenic from the catatonic form.

The hebephrenic form has been divided into two groups, dementia simplex and hebephrenia proper. The difference between the two consists chiefly in dementia simplex running a more protracted course and having less often periods of excitement than hebephrenia proper.

Dementia simplex is characterized by general apathy and a slowly progressing intellectual enfeeblement. The latter sometimes reaches but a moderate degree and then

the disease is arrested. Precocious dements of this sort are found among ragamuffins and vagabonds, which is forensically of great importance. In the majority of cases the disease progresses until the patients become helpless mental wrecks. Impulsive outbreaks, delusions, stereotypy, stupor, etc., do occur, but are comparatively rare.

In hebephrenia proper, on the other hand, excitative states are more frequent and of longer duration. Hallucinations and delusions are more marked, although they do not form as prominent a feature as in other forms of dementia praecox. In the early stages the delusions are of a depressive and persecutory character. The patient believes everybody to harbor inimical designs against him. Later the delusions are expansive in nature. The impulsive outbreaks and the delusions may lead to violent acts. Disturbances of volition, such as automatism, stereotypy, mannerism, negativism, etc., are seen quite often. Hebephrenia proper finally passes into a stage of permanent dementia.

Catatonic Form. The catatonic form of dementia praecox differs from the hebephrenic form through a more acute onset and through more frequent states of excitement and stupor. Hallucinations and delusions are also somewhat more conspicuous in the catatonic form than in hebephrenia.

After a period in which neurasthenic and hypochondriacal symptoms prevail, the mental disorder begins subacutely with anxiety and depression and presents for some time a clinical picture resembling melancholia. Now and then the patient utters delusions of a persecutory character. Owing to the depression, a state of mutism may persist for days, weeks, and months. At

times the depression is interrupted by impulsive outbreaks driving the patient to violent acts. Suicidal attempts are not rare in this stage. The depressive stage is followed by a period of excitement marked by hallucinations, delusions, and frequent explosions of violence. In such spells the patient displays destructiveness, aggressiveness, and a homicidal tendency. This period is succeeded by a stage of catatonia or stupor with catalepsy. Excitative and stuporous states alternate several times and finally the patient passes into a state of permanent dementia.

In many cases the sequence of the stages is different from the one just outlined. The stage of depression may be followed by stupor or after the preliminary neurasthenic symptoms the mental disease may set in with stupor.

The stupor varies greatly in duration and intensity. It may last a few hours or several months. There may be complete loss of consciousness and great rigidity of the muscles, or the consciousness is little disturbed, and there is only a general apathy associated with moderate muscular tension. In the stuporous conditions with but slight impairment of consciousness disturbances of volition, such as stereotypy, verbigeration, mannerism, negativism, automatism, and hypersuggestibility are quite frequent.

Paranoiic Form. In the paranoiic form of dementia praecox delusions form a predominant feature. They persist for years while in the other forms they tend to evanesce in a comparatively short time.

This form may be distinguished into two groups. In the first one, dementia paranoides (Kraepelin), indications of intellectual enfeeblement appear early and pronounced dementia develops quite rapidly. The delusions

in this group are changeable, nonsensical, incoherent, lacking system. In the second group, however, the delusions are more stable and coherent and systematized (Ch. 29, p. 58) for several years; then they become confused and fade away leaving a moderate dementia.

In the early stages of the paranoiic form the affective state is that of depression and anxiety, and the delusions have a persecutory character. Later the mood is rather joyous, exalted, and the delusions are of a cheerful nature. At times great irritability prevails, giving rise to impulsive outbreaks.

The conduct of the patient is in conformity with his delusions. In the depressive stage he is reserved, cautious, suspicious. In the stage of exaltation he is rather loquacious and dresses himself up in gaudy attire. While in a mood of irritability he may be violent.

Stupor occurs but seldom in the paranoiic form. Stereotypy and negativism, however, are not rare, and mannerism in eating, speaking, walking, etc., is frequently observed.

Course and Prognosis of Dementia Praecox. The course of dementia praecox, from the first appearance of pronounced psychopathological symptoms until the beginning of the final stage of permanent dementia, extends over several years. Remissions occur lasting in some instances many years. The progress of the disease may be arrested at a certain stage. This is especially the case in the hebephrenic form. Fatal termination is usually due to an intervening disease, such as tuberculosis, to which especially stuporous patients are frequently subject. Eight per cent. of hebephrenic and 13 per cent. of catatonic patients get well to the extent of being fit for useful occupation. But even in such cases a closer

examination reveals mental defects. Restitutio ad integrum, if it occurs at all, is very rare.

Differential Diagnosis of Dementia Praecox. In dementia praecox there are indications of an impairment of the reasoning power even at the onset of the psychosis. This point in connection with the youthful age of the patient is almost pathognomonic. There is only one other form of insanity in which signs of enfeeblement of the intellect are present as early as the initial stage, namely paretic insanity (p. 248). In general the diagnosis must be based on the entire clinical picture. In the early stages dementia praecox resembles phrenasthenia (Ch. 90, p. 222), from which it is distinguished by the emotional apathy, by the slow psychomotor response, and by indications of intellectual deterioration, of mannerism, and of other motor anomalies. The depression of dementia praecox differs from melancholia by the character of the accompanying delusions. The characteristic melancholic ideas of sinfulness are missing in dementia praecox. The states of excitement and restlessness in dementia praecox are not uniform and steady, but moments of quiet and apathy intervene, while in mania the agitation is constant and associated with the characteristic cheerfulness. In dementia praecox the pupillary reaction is lively and motor defects of speech and of writing and other pareses are missing, in contradistinction to paretic insanity, which is characterized by such motor disturbances. In the paranoiic form of dementia praecox there are early indications of impairment of the intellect and the delusions are marked by absurdity. In true paranoia, however, the reasoning power remains unabated for a long time, and the delusions are fairly well accounted for.

THERAPY. The treatment of dementia praecox is chiefly preventative. Children from psychopathic families should not be overexerted either physically or mentally. They should be brought up to observe regularity of habits and to avoid all kinds of excesses. They should not be allowed to drink alcohol and to smoke tobacco. Especially masturbation must be prevented. Patients suffering from dementia praecox should be removed from their home surroundings and put into a psychopathic hospital where they can be best taken care of. Only very mild cases may be treated at home.

CHAPTER XCII.

RECURRENT INSANITY, MANIC-DEPRESSIVE INSANITY.

F. H. v. Grashey in his wonderfully lucid lectures on psychiatry never spoke of *manic-depressive insanity*. Only occasionally he touched upon *periodic* and *circular* insanity which other authors range with a large class of psychoses designated as *manic-depressive insanity*. Although this treatise conforms quite exactly with the teachings of v. Grashey, it seems advisable to discuss briefly this class of mental diseases, as the views of those authors have received wide recognition.

The clinical picture of melancholia (p. 154) is composed of three cardinal symptoms, namely: 1) depressed affective state or sad mood ("traurige Verstimmung," p. 31); 2) dearth of ideas and retardation of the ideational process (p. 41); 3) diminished frequency of volitional manifestations (p. 78). For the sake of brevity

these three symptoms may be called respectively: dejection, immobility of thought, inactivity. It will be more conducive to clearness to avoid in this discussion the term depression for the reason that it does not refer to mood alone, but also to other mental states which may be depressed, while dejection usually implies the affective state only.

According to v. Grashey immobility of thought and inactivity are not independent from dejection, but conditioned by it so that wherever the latter symptom is present we will always meet with the other two symptoms (Ch. 14, p. 33). A sad patient is quiet, and his thoughts are sluggish. Only when the dejection becomes increased to anxiety and fear the inactivity gives way to restlessness. Apparently the patient then produces also more ideas. In reality, however, it is one and the same apprehensive idea that always returns, keeping up the restlessness (pp. 33, 34).

The opposite of melancholia is mania, the clinical picture of which is founded on the three cardinal symptoms: 1) exalted affected state or cheerful mood ("heitere Verstimmung," p. 36); 2) abundance of ideas and acceleration of the ideational process (p. 42); 3) increased frequency of volitional manifestations (p. 78). These three symptoms may be called respectively: exaltation, mobility of thought, activity. The term "flight of ideas" (pp. 36, 42), often used for the second symptom, will more appropriately be reserved for the highest degrees of the symptom.

In mania there is the same relation between the three cardinal symptoms as in melancholia. They are not coordinate, but from exaltation necessarily result mobility of thought and activity (Ch. 16, p. 35). In a fit of

anger, however, due to resistance and obstacles (p. 163) or to hallucinations contrary to the patient's delusions (p. 166), his cheerful mood may not be obvious, so that there are apparently mobility of thought and activity without exaltation. The wrathful mood may even be mistaken for dejection.

The hypothesis explaining the influence of the affective state upon the ideational process (Ch. 8, p. 19), and at the same time the manic and melancholic syndromes, is supported by pathological as well as normal phenomena. The association of dejection, immobility of thought, inactivity on one side, and of exaltation, mobility of thought, activity on the other side, forms the rule not only in patients, but also in sane individuals. In a sad mood we have difficulty in thinking and prefer to be quiet, our thoughts flow readily, and we are lively and active in a cheerful frame of mind.

The foregoing explanation of mania and melancholia will hardly agree with Kraepelin's views on manic-depressive insanity. According to this author every mania and almost every melancholia, as defined before, constitute different phases of one and the same disease, which is characterized by repeated attacks of mania, or of melancholia, or of *mixed states* in which the cardinal manic and melancholic symptoms are combined. From the three pairs of opposite symptoms would result eight different forms. Starting from mania, composed of exaltation, mobility of thought, and activity, the other seven forms are obtained by replacing one or more of these symptoms by their opposites. The combination of exaltation, mobility of thought, activity, constitutes the *manic phase of manic-depressive insanity,* and the combination of dejection, immobility of thought, inactivity, forms the *depressive phase of manic-depressive insanity.* The former does not differ materially from *mania* (p. 162), and the latter from *melancholia* (p. 154) as described before in this treatise.

Considering only those cases of manic-depressive insanity in which the repeated attacks are always purely

manic or purely melancholic, or alternately sometimes purely manic, at other times purely melancholic in character, the lengthy names of the disease and its attacks may be dispensed with. It has been known long ago that patients may go through many attacks of mania or melancholia and that these clinical pictures may alternate (p. 168). A patient subject to attacks of mania or melancholia, separated by lucid intervals, suffers from *recurrent mania* or *recurrent melancholia.* When the intervals are fairly regular, we speak of *periodic mania or melancholia.* In *circular insanity* there are cycles composed of mania, melancholia, and a lucid interval. When the intervals of circular insanity are missing or too short to be perceptible, we have *alternating insanity.* So far there seems to be no need to abandon the long approved terms mania and melancholia and to replace them by the cumbersome names *manic phase of manic-depressive insanity* for mania, and *depressive phase of manic-depressive insanity* for melancholia. We may simply speak of *recurrent insanity* and have to bear in mind that an attack of mania or melancholia, although it has ended in partial or complete recovery, may be repeated at some future time in the same or the opposite character, especially if the case gives a history of previous attacks.

But if there be cogent reasons to regard some attacks of recurrent insanity as truly mixed states, we must acknowledge the modern views on manic-depressive insanity and accept the names for the disease and its single attacks as appropriately selected. The attacks of recurrent insanity very often lack the character of pure mania or pure melancholia, but apparently contain manic and melancholic symptoms at the same time. Indeed, many authors maintain that pure mania is of very rare occurrence.

Kraepelin assumes that the cardinal manic and melancholic

symptoms may combine in any manner. He thus arrives at six mixed states.

1. In the manic symptom complex the exaltation may be replaced by a depressed mood. This form is the so-called *irascible mania* (*"zornige Manie"*). The patients are constantly in an angry frame of mind and vent their wrath by inveighing against everybody. When the excitement is slight, the picture of *nagging mania* (*"nörgelnde Manie"*) is present, the patients being discontented and finding fault with everything and everybody.

2. When in irascible mania mobility of thought is replaced by its opposite, there arises the picture of *depressive excitement.* The patients display great restlessness. They talk incessantly, tormenting themselves and others with the same hypochondriacal ideas.

3. When in depressive excitement the depressed mood gives way to exaltation, there is produced the picture of *mania with dearth of ideas* (*"gedankenarme Manie"*). This form is frequently met with. The patients perceive but slowly and inaccurately, do not comprehend questions before they have been repeated several times. They create, therefore, the impression of being weak-minded, though later they may turn out to be quite intelligent. The mental condition of the patients is very fluctuating, so that at times they are adroit and quick at repartee, while at other times they cannot be moved to say a word. The patients are in a cheerful mood and laugh at every trifle. Their talk is incoherent, twaddly, empty. They don't speak much nor hastily. For a long time they may remain silent, if they are not stimulated. In the course of a conversation they are at first unable to find words, but later they may develop a torrent of verbiage. The impulse for movement is limited to grimacing, occasional dancing about, plucking at the hair and the clothes. Some patients conduct themselves orderly and quietly, so that superficial observation would not reveal any excitement. They are in an exalted mood, now and then somewhat irritated, and at times show themselves rude only to burst into merry laughter after a while. Other patients sit around idly, laugh boisterously, and display a tendency to mischievous tricks, such as smearing the walls, plugging up the keyholes, etc., while for useful occupation they are entirely unfit.

At times violent outbreaks occur in these patients, but they are of short duration. Even genuine mania may appear transitorily.

4. Cheerful mood may substitute the dejection in the clinical picture of melancholia. The condition then obtained is the so-called *manic stupor.* The patients are indifferent to their environment, do

not answer a question, at best they mumble with a low voice in reply. They smile without perceptible cause, lie quietly in bed, fumble with the bed clothing, and decorate themselves phantastically, all this without evident emotional excitement. Sometimes the patients give utterance to delusions of variable contents. Orientation is usually little disturbed. Sometimes catalepsy is observed. Occasionally impulsive outbreaks occur, the patients suddenly becoming very violent and manifesting a tendency to dangerous acts. At other times they may be quiet, collected, and intelligent, but such a condition does not last very long. Some patients walk about the ward in measured steps and barely speak a word, but utter now and then a witty remark. Frequently the patients remember everything that has occurred, but are unable to explain their strange conduct.

5. In the clinical picture of melancholia immobility of thought may be replaced by its opposite. The patients are quiet, silent, despondent, yet they exhibit curiosity and interest in their environment. When they break their silence, they relate that many ideas pass through their minds. They read and write a good deal, composing long stories which treat of their fears and delusions of sin.

6. Finally Kraepelin "believes to have observed states which would correspond to the presupposed association of flight of ideas and cheerful mood with phychomotor inhibition." These patients are gay, at times somewhat irritable, distractible, inclined to jokes. When spoken to, they readily start a long rigmarole with flight of ideas and numerous sound associations. Their general behavior, however, is remarkably tranquil. They lie quietly in bed, now and then uttering a remark or laughing. But an inner tension seems to influence the patients, for they frequently become very violent without any cause.

It is difficult to adjust the theory of the relation between ideational process, volitional activity, and affective state (Ch. 8, p. 19, Ch. 14, p. 33, Ch. 16, p. 36) to these mixed states. For if it be correct that exaltation causes mobility of thought and activity, while dejection produces immobility of thought and inactivity, truly mixed states cannot occur. But perhaps the above mixed states need not be taken as such. Thus "irascible mania" may be considered as pure mania in which the exaltation is hidden by a wrathful mood (pp. 163, 166, 235), but not replaced by its opposite, viz., dejection. Similarly "depressive excitement" may be explained as pure melancholia in which the dejection is increased to anxiety and fear, an affective state that causes restlessness—melancholia agitatia (pp. 33, 34, 155).

In "manic stupor" the affective state is that of indifference; there is neither genuine exaltation, nor dejection. An occasional smile or witty remark does not necessarily indicate true exaltation. Possibly we may detect now and then a sorrowful expression of the countenance, when we observe the patient without preconceived assumption. Casual restlessness is not necessarily manic in nature, but may be due to fear or to hallucinations.

The occurrence of the mixed state composed of exaltation, mobility of thought, and inactivity is somewhat doubtful yet.

The two mixed states, namely mania with dearth of ideas (*"gedankenarme Manie"*) and the other one which in contrast may be called *melancholia with abundance of idea* (*"gedankenreiche Melancholie"*) can hardly be brought in conformity with the theory that exaltation produces mobility, and dejection, immobility of thought. If for this reason the theory is to be abandoned, there remains the important question to be answered why normally as well as pathologically exaltation is so often associated with acceleration, and dejection with retardation of the ideational process. Until this question will have received a solution with which the modern views on manic-depressive insanity do not conflict, there is good justification in avoiding this misleading designation of the disease and in abiding by the old term recurrent insanity, the more so as Kraepelin himself, the foremost exponent of the theory of manic-depressive insanity, remarks: "Die Lehre von den Mischzuständen ist noch zu unfertig, als dass eine weitergehende Kennzeichnung der einzelnen Formen möglich wäre."

Etiology. Hereditary psychopathic predisposition is so frequently met with in recurrent insanity that the disease may be classed with hereditary insanity which, as has been pointed out before, is characterized by a strong tendency to recur (p. 218). A hereditary taint can be established in 80 per cent. of the cases. The first attack usually occurs before the age of 25 years, but in some instances as early as the tenth, in others as late as the fiftieth year of age. Physiological perturbations of the system may bring on the disease. This is perhaps the reason why it is more frequent among women than among men, the former being more often subject to

physiological systemic agitations than the latter, at the appearance of the first menses, and during pregnancy, puerperium, lactation, and climacterium. In physiological disturbances furnishing an exciting cause of the disease lies another hereditary feature (p. 218). The usual exciting causes of insanity, such as shock, fright, worry, excesses, infectious diseases, physical and mental overexertion, are even more effective in recurrent insanity.

Course and Prognosis. The disease begins with an attack of melancholia or mania which ends in recovery. The attack is repeated in the same character after a longer or shorter lucid interval. Several uniform attacks follow—recurrent (periodic) melancholia or mania. Sometimes an attack unexpectedly presents the opposite character. Only in a small number of cases the disease passes directly from one phase into the other—alternating insanity—or is interrupted after two opposite phases by a lucid interval—circular insanity. The first attack, in the majority of the cases, is of a depressive character, especially in women and in young patients. The depression is followed by a period of well-being, or passes uninterruptedly into a manic stage which ends in recovery. But if the first attack is manic, it is nearly always followed by a lucid interval, rarely by a depressive phase. The so-called mixed states, as a rule, do not occur before several depressive or manic attacks have preceded.

The duration of the attacks varies from a few days to several years, and that of the lucid intervals from a few days to a great number of years. As a rule the attacks last from 6 to 12 months. The early intervals are longer than the later ones. In the intervals the mental condition of the patients is usually normal, or at least appears to be so. But sometimes, especially later in the

disease, there occur in the intervals short periods of moderate exaltation, irritability, and restlessness, or of dejection and inactivity.

The prognosis of recurrent insanity is favorable with regard to the single attacks, but unfavorable as to recurrence of the disease. The first attacks ordinarily end in complete recovery, but later attacks leave behind some mental enfeeblement. The danger of pronounced mental deterioration, of secondary dementia, is greatest when the attacks are very frequent or prolonged.

A patient may have an attack of mania or melancholia, recover completely, and remain sane all through the rest of his life. Whether such a case is to be classed with recurrent insanity—manic-depressive insanity—or not, is merely a theoretical question. Practically it is of importance that in a given case of mania or melancholia with no history of previous attacks the physician should be guarded in the prognosis, bearing in mind the possibility of a recurrence of the disease, especially when a strong hereditary taint can be established in the patient's family. In cases, however, in which there is a history of previous attacks, the physician is undoubtedly dealing with recurrent insanity and may predict other attacks with a fair degree of probability.

Differential Diagnosis. When a history of previous attacks is obtained, the diagnosis offers no difficulty. The disease has to be differentiated from paretic insanity and dementia præcox, in which psychoses there may also be excitative and depressive stages separated by lucid intervals. In recurrent insanity early indications of intellectual deterioration are lacking. The delusions are not as absurd in character as in paretic insanity and dementia præcox. In general paresis there are characteristic physi-

cal symptoms, such as faulty reaction of the pupils, defective articulation, etc. Pronounced stereotypy, mannerism, negativism, automatism, etc., speak rather for dementia præcox than for recurrent insanity. In the latter disease the patients respond more readily to external stimuli, and, while in a manic phase, are more tractable than in the former. Mild forms of manic-depressive insanity may be taken for phrenasthenia. But in this disease the patients have the insight into the morbidity of their mental condition.

THERAPY. Preventative treatment is very important in recurrent insanity. Patients having gone through an attack of mania or melancholia should lead a quiet life, free from any excitation. Marriage is contraindicated in cases of doubtless recurrent insanity. The treatment of the individual attacks has been outlined in the chapters on mania and melancholia.

CHAPTER XCIII.

EPILEPTIC INSANITY.

Epilepsy is frequently productive of mental disorder. It leads to insanity in two ways. In the first place, the injurious influence exerted on the mind by the epileptic attacks causes mental deterioration. Secondly, the epileptic attacks are sometimes replaced by spells of mental alienation, the so-called *psychic equivalents of the epileptic attacks.*

The first form of epileptic insanity appears as feeble-mindedness. Shortly after every epileptic attack the patient has difficulty in remembering things and

events, and this disturbance of memory is associated with some impairment of the understanding. This state of mental weakness is transitory. But when the attacks recur frequently, it becomes permanent and represents epileptic insanity in the form of feeble-mindedness.

Regarding the psychic equivalents of the epileptic attacks, *preepileptic insanity* and *postepileptic insanity* are distinguished. An analysis of the epileptic attack will more clearly explain the nature of the psychic equivalent. The epileptic attack may be completely or incompletely developed, and mild as well as severe attacks may occur in the same patient. The typical complete epileptic attack begins with the so-called aura, consisting in peculiar sensations which warn the patient of the approach of the next and severer stages of the attack. The patient has still time to retreat to a place of shelter and safety and to put dangerous objects out of the way. The aura is succeeded by feelings of anxiety associated with terrifying hallucinations and illusions, as hearing the thundering of cannons, seeing burning structures, beholding bitter enemies in people standing near by, etc. Complete loss of consciousness and general convulsions follow thereupon. The patient falls down, and tonic and clonic spasms arise in various muscle groups. The spasms of the respiratory muscles hinder the respiration, causing cyanosis, especially visible on neck and face. The mouth is almost closed, the tongue is caught between the teeth, and the lips become soon covered with foam, the saliva being drawn in and out between them. After a while the convulsions gradually subside and finally cease. The unconsciousness, however, continues for some time and passes into a sleeplike state from which the patient sooner

or later awakes with no recollection of what has transpired.

These four stages of the epileptic attack are not always well marked. The aura and the stage of anxiety may be very short. The patient has hardly become aware of the preliminary disagreeable sensations when he is seized with the convulsions. Sometimes the attack stops short in a certain stage. Thus the patient, overcome by the unpleasant sensations of the aura, may recover immediately. At another time a state of semi-consciousness follows a short aura without the intervention of convulsions.

In the semiconscious state just mentioned the patient is entirely unreliable. Driven by terrifying hallucinations, he is apt to commit the greatest atrocities. It may be added here that the homicides perpetrated by the epileptics are characterized by extreme brutality and by lack of motive. The semiconsciousness following immediately after a short and imperceptible aura may last very long, several days. It represents a psychic equivalent of the epileptic attack. The abnormal mental condition just sketched constitutes preepileptic insanity.

Sometimes the attack is developed as far as the stage of convulsions, and after they have ceased, the patient rises too early before having recovered full consciousness, and begins to walk about in a semiconscious condition. The latter may last days and weeks, and during this time the patient may perform all kinds of misdeeds. This mental disorder of the epileptic patient is designated as postepileptic insanity.

In all exactness the psychic equivalent of the epileptic attack is but a protracted stage of the attack.

The psychic equivalents of the epileptic attacks oc-

cur chiefly in epilepsy commencing after the completion of the general development, i. e., after the age of 20 years, and especially in those cases in which a cranial injury has furnished the cause of the epilepsy.

It is a peculiarity of the epileptic attacks, of the incomplete as well as the complete ones, that they may be brought on through certain sensitive areas of the body. After Brown-Sequard had succeeded in artificially producing epilepsy in animals, the observation has been made that in man a sensitive scar, especially of the skull, may become the source of epileptic attacks. That the latter are periodic, although the irritative influence of the scar is constant, may be explained in the following way. The sensitive scar increases the excitability of the patient. Any insignificant incidental irritation suffices, therefore, to produce an attack, as a psychical excitement, slight overfilling of the stomach, knocking against an object, etc.

The treatment of epileptic insanity is symptomatic. Care must be taken that the patients do not harm themselves and others. The extirpation of a sensitive scar which may form the exciting cause of the epileptic attacks, is indicated. The psychic equivalents are very little influenced by the bromides.

Forensic Consideration. Epileptics are liable to come into conflict with the Penal Code. The physician ought, therefore, to be well informed about the connection between epilepsy and crime, about the fact that epileptics are subject to spells of impaired consciousness during which they may commit various misdeeds. When called upon to give an opinion in a case of brutal homicide, unexplained by any motive, the physician should bear in mind that such crimes are characteristic of epilepsy. A helpful hint is obtained when a gap of memory can be

demonstrated in the defendant (p. 66). For the epileptic attacks and their psychic equivalents leave gaps of memory in the patient. The factor of amnesia ought, therefore, to receive proper consideration in criminal cases where there is suspicion that the defendant is an epileptic. He may not know anything of the crime accused of, having committed it in a semiconscious state for which there is now a gap of memory.

An epileptic having committed a punishable act during a semiconscious state may be able to give to the physician an exact description of the details of the offense. In such a case the physician should not exclude a disturbance of consciousness for the time of the offense because of the apparent absence of amnesia. For it is possible that the defendant is acquainted with the details of the offense because he has learned them subsequently from others.

An impostor found guilty of repeated embezzlement, theft, etc., may pretend to have committed these crimes in states of unconsciousness. In such an instance it is necessary to examine whether the unlawful acts have always turned out to the advantage of the perpetrator or have now and then been harmful to him. In the first case malingery is to be assumed, in the second case epilepsy is to be taken into consideration.

Chapter XCIV.

PARETIC INSANITY.

General paresis, general progressive paralysis, stands in close relation to lues, syphilitic patients having a far greater predisposition to paresis than those free from

luetic infection. Nevertheless, some psychiatrists have held the view that paresis does not constitute a late luetic symptom, since in a good many cases lues can positively be excluded (p. 115).

General paresis is chiefly an acquired disease. It is contracted through excesses in Baccho et Venere and through overexertion. Regarding sexual indulgence the excesses themselves are not as important an exciting cause as the infection which they occasion.

General paresis occurs most frequently at the age of 25—40 years. Between 20—25 it is uncommon, so that in a case of this age, showing paretic symptoms, lues cerebri, which resembles paresis, has to be taken into consideration. Under 20 years of age general paresis is very rare. From 40—60 it becomes rarer and rarer, and after 60 it is hardly ever met with. In psychoses at this age, which are similar to paretic insanity, careful differentiation from senile insanity should be made.

Paretic insanity, as a rule, has a longer precursory stage than other psychoses. This prodromal period lasts from several months to a year and even longer. Some French authors maintain that many patients pass all their life in the precursory stage of paretic insanity. But this assertion goes too far.

The most important feature of the precursory stage consists in *alteration of character*. This symptom is not indefinite, vague, or hardly noticeable, but is very striking. The steadfast and upright man begins to be dissolute and untrustworthy, the good father and faithful husband, to neglect his family more and more. He may become infatuated with a woman of low character and for her sake abandon a happy home. A prominent psychiatrist relates a case in which a patient in the precursory stage of

paretic insanity told his wife of his irresistible love for one of his factory girls, insisting that she be taken into the family. The symptom of *alteration of character,* therefore, does not lack distinctness. It shows itself also in a change of taste. The former favorite dishes are refused by the patient, and he greatly relishes now food which he used to dislike.

The alteration of character becomes still more conspicuous through simultaneous impairment of memory. The business man always attentive of, and retaining in mind, the most insignificant trifles, becomes neglectful and forgetful of the most important affairs.

The vitiation of character is further associated with a weakening of intelligence. This is clearly shown by the above example in which a husband with a sort of naiveté wants his wife to admit into her home a woman with whom he has explicitly asserted to be in love. It is quite characteristic of paretic insanity that weakness of the understanding appears already in the initial stage of the psychosis (p. 232).

In the precursory stage paretic patients render themselves guilty of manifold extravagances. Most of the court proceedings in which paretics are involved refer to excesses committed in this stage.

The precursory stage is marked by various somatic disturbances. Sleep is greatly impaired. Frequently it does not come before the morning. Instead, the patient falls asleep at unusual times, for instance, while at the dinner table. Now and then the patient is seized with apoplectiform attacks marked by loss of consciousness. These spells do not last long and leave no after-effects.

Motor disturbances of the precursory stage are sluggish reaction of the pupils, which may be narrow or un-

equal, and diminution or absence of the tendon reflexes. Some patients show increased reflexes even in advanced stages of the disease, but in those cases where the reflexes are absent at a later stage, they have been diminished or absent in the precursory stage. Many paretic patients present also symptoms of tabes, such as rigidity of the pupils, atactic gait, etc. There are also cases in which for years only tabetic symptoms are present, and then paresis suddenly supervenes. In such instances we may speak of paresis with a long precursory stage marked by tabetic symptoms, or of tabes which has been followed by paresis. Which view is correct must be left undecided.

Sensory disturbances are common in the precursory stage. Many a patient goes through all kinds of hydrotherapeutic and other procedures to cure his "rhematism," and at last he begins to show distinct symptoms of general paresis. Impairment of vision, for a long time attributed to some cause or other, as to nicotine poisoning, is finally recognized as a paretic symptom.

Under certain conditions the precursory stage is very short or lacking altogether. When a syphilitic patient, for instance, receives a severe trauma of the skull, he may directly become a victim of general paresis, a precursory stage being hardly noticeable. But in the absence of such a coarse injury to the brain a precursory stage is not wanting.

The precursory stage is succeeded by an attack of melancholia or of mania. After several such periods of excitement follows the final stage of dementia. In these periods, which may be separated by remissions, melancholia and mania alternate or are irregularly repeated.

In some instances, however, the precursory stage passes uninterruptedly into the dementia paralytica.

The melancholic excitement of paretic insanity resembles ordinary melancholia, but is distinguished by the absurdity of the delusions of self-depreciation (p. 55). While in ordinary melancholia the patient would say he is sinful, he is unworthy of nourishment, eternal damnation will be his lot, the world will perish because of his wickedness, etc., the paretic melancholic says he has shrivelled to the size of a pigeon, he does not exist at all, the world has already perished on account of his sins, etc. These entirely nonsensical delusions are quite characteristic of general paresis.

During the melancholic stage the somatic disturbances make further progress. A defect of articulation becomes manifest, the patient being unable to pronounce certain words. In this respect faulty pronunciation of difficult words is not of great importance. What is more significant is that the patient mutilates every-day words, but repeats them correctly when his attention is called to the mistake. An uneducated person, many a time, does not enunciate well complicated words, such as artillery, electricity, etc. If, however, a patient corrupts plain words when speaking in the usual manner, but pronounces them without fault when he pays attention to every word, a valuable symptom for the diagnosis general paresis is obtained. Something similar holds good as to writing. When the paretic patient is not more attentive to his writing than ordinarily, it may be defective, some strokes or whole syllables and words being omitted. He is unable to write certain frequent words, as his own name, at one stretch. But when he is very careful of his writing, it may be fairly good. The slowness and care

the patient has to use in order to avoid mistakes and omissions in writing, furnish an important paretic symptom.

The melancholia is followed, sometimes preceded, by a period of maniacal excitement. As a rule, it is in such a stage that paretic patients are committed to the insane asylum. The mania of paretic insanity differs from ordinary mania by the absurdity of the delusions of grandeur. They are not explained in any way, contain a palpable nonsense, are full of contradictions, and in great contrast with the patient's education (p. 55). Now he maintains to be the emperor, now the pope or the Lord himself. He possesses billions given to him by the emperor of China. Questioned for what meritorious feats the emperor has bestowed upon him so munificent a gift, he answers he is himself the emperor of China. Another paretic maniac would say his body consists of precious stones, he has bones of diamonds, etc. When a maniac asserts to possess billions, absurd delusion of grandeur is not to be assumed at once, but he must be asked how he obtained such wealth. A non-paretic maniac will give some explanation.

Now and then the mania of paretic insanity is interrupted by the so-called *paralytic attacks*. Usually occurring in a maniacal stage, they have an apoplectiform or epileptiform character. The patients recover from these spells in a short time, a few days, and then the mania continues.

The occurrence of remissions in the course of paretic insanity is of special importance. The maniacal or melancholic excitement subsides, the patient becomes calm. With the cessation of the morbid affective state the delusions also disappear. The patient recognizes his delu-

sions as such and abandons them. He even admits that he has been mentally ill, i. e., he gains the insight into the disease (p. 129). But the rule that the rising consciousness of having been mentally ill, constitutes a sign of convalescence, does not hold good in the remissions of paretic insanity. A remission in this psychosis is far from convalescence. A hint that during such a stage the mental disease has merely made a transitory standstill, is furnished by the continuation of many motor disturbances. The pupillary reaction is insufficient or absent, the articulation and writing are defective, the gait is unsteady. The patient becomes fatigued quickly, a short walk makes him feel the need of sitting down and resting his weary legs. These paretic symptoms are much less noticeable in a remission than in the melancholic and maniacal stages. For the patient has become quiet and is, therefore, better able to direct his attention to these functions. But these motor disturbances do not disappear entirely during a remission.

The duration of the remissions varies. Rarely a remission extends over a longer period than three years, but remissions even of 20 years' duration do occur. In a case in which the patient has died in a remission after it had lasted for a very long time, we may speak of recovery from general paresis. But as a general rule, recovery from this psychosis is not to be counted upon.

The remission comes to an end through the outbreak of an acute exacerbation, which is usually caused by the patient having overestimated his powers and taken upon himself too difficult tasks. The exacerbation begins all of a sudden in the form of maniacal or melancholic excitement and makes the patient decline rapidly. A paretic patient, therefore, must be dissuaded from resuming,

during a remission, his former hard occupation. For the quieter a life he leads, the longer the remission would last. But even a patient who enjoys perfect rest is not spared a recrudescence of the disease.

The recurrence of acute symptoms after a remission exhausts the patient more than the first stage of excitement. The paralytic attacks become more and more frequent, and the patient usually passes soon into the final stage of dementia.

The dementia of paretic insanity is not a stable condition. The patient proceeds, at a rapid pace, on his journey towards the fatal end. He soon becomes unable to walk, stand, sit upright, and swallow. Artificial feeding has to be employed invariably. At times, even without the intervention of paralytic attacks (p. 251), he falls into states of great weakness which last several days. The feeding becomes more and more difficult, the nutrition insufficient, and through general exhaustion or some intercurrent disease the patient's wretched life reaches its termination. The autopsy reveals considerable pathological changes in the brain cortex.

Prognosis and Differential Diagnosis. Because of the prognosis the differential diagnosis of paretic insanity is of great importance. When the physician has convinced himself that a mental malady, as melancholia or mania, is based on general paresis, he may put down the prognosis as lethal, and declare to the patient's relatives that cases of recovery from paretic insanity are so rare that recovery is hardly to be taken into consideration.

Paretic insanity is distinguished by its peculiar precursory stage. A similar prodromal period does not occur in any other psychosis. Mania and melancholia in the course of paresis are characterized by the absurdity

of the delusions of grandeur and of self-depreciation respectively. Motor disturbances, such as rigidity of the pupils, impairment of articulation and writing, unsteady gait, etc., exclude all doubt of general paresis.

It does occur that an insane patient succumbs under paretic symptoms, although in the beginning of the psychosis paresis could not be demonstrated. In such a case it is possible that we are dealing with a psychosis to which paresis has supervened, or with paretic insanity which did not commence in the typical manner. The first assumption is more probable. For there is no known reason why an insane person, as well as a sane one, should not develop general paresis.

THERAPY.—Antiluetic treatment has not proved to be of beneficial effect on the course of paretic insanity. In some instances it brings about a slight improvement, but the latter is only transitory, and the morbid process is afterwards accelerated in consequence of the weakening influence of the antiluetic procedures.

A good deal, however, can be accomplished to prolong the patient's life. If a paretic patient succumbs after a comparatively short illness, the suspicion is justified that the treatment has been neglected, that he has not been properly protected against the numerous dangers his disease is attended with. Owing to deficiency of deglutition, foreign material may be drawn in the deeper air passages and pneumonia may result. The patient may burn his œsophagus and stomach by swallowing too hot food, become affected with cystitis through disturbance of the function of the bladder, and contract phlegmons from slight sores. All these dangers can be obviated by careful circumspection. A paretic patient with deficiency of deglutition must be assisted while eating or even arti-

ficially fed, especially when he has bronchitis, because during an attack of coughing the danger of drawing particles of food into the lungs is very great. The evacuation of bowels and bladder has to be regulated and watched. The most insignificant lesion of the skin must not be disregarded, but carefully treated.

Great difficulty of treatment is encountered during long lasting paralytic attacks. One epileptiform or apoplectiform attack may follow the other, so that the patient remains in an unconscious state for many days. It is then necessary to introduce into the system a sufficient quantity of fluid. This should not be done per os because of the danger of aspiration into the lungs, but the fluid should be given per rectum, very slowly and under slight pressure, to prevent its being ejected.

Forensic Consideration. The paretic patient may become involved in civil and criminal suits as early as the precursory stage. Penal acts may be committed by the patient in a stage of maniacal excitement and during a remission. Civil suits at the precursory stage arise from foolish extravagance of the patient which results to the detriment of his family and of others. Criminal acts at this period are such as perjury due to failing memory, forgery, poisoning of the wife out of illicit love for another woman, etc. In a maniacal stage paretic patients commit acts of violence and render themselves guilty of theft owing to the delusion that everything belongs to them (p. 89), etc. The misdeeds perpetrated during a remission are similar to those of the precursory stage, especially when the patients resume their former occupations.

A difficult question for the physician to decide is whether or not a paretic patient may be permitted to en-

joy, during a remission, the right to the control of his estate. The physician will find it difficult to convince the court that the patient ought to be adjudged incompetent on the ground that he is only apparently sane, and manifest insanity may set in again in full force at any moment. For the court would hardly appreciate the significance of a sluggish pupillary reaction and other slight motor disturbances still noticeable in the patient, but would rather consider such signs as trifles not furnishing sufficient cause to declare the patient incompetent.

In some cases it is not requisite to divest paretic patients, during remissions, of the right to the control of their estates, in the same way as it is sometimes not necessary to take away this right from secondarily insane patients, for instance, when their fixed delusions have no relation whatsoever with their financial affairs. A paretic patient in a remission may be allowed to manage his revenue if he derives his livelihood from a monthly pension. Leaving race deterioration out of the question, we may even allow him to contract a marriage. If the bride-to-be and the patient have been warned and made to understand that a recurrence of the disease is to be expected, and nevertheless they do not desist from the marital union, the prospective bride, for instanc, insisting that she wants to be to her beloved a faithful nurse in his illness, the consent to their marriage cannot be justly withheld.

If a paretic patient harbors a grudge against his relatives for having caused his commitment to the insane asylum or for any other reason, he should not be, during a remission, in charge of his property. For he is apt to disinherit them or sell everything he possesses and escape with the proceeds.

Chapter XCV.

ALCOHOLIC INSANITY.

The consumption at one time of a large quantity of alcohol produces a state of intoxication which, in all exactness, represents an acute psychosis. The abuse of alcohol extending over a long period, on the other hand, brings about a condition which is designated as "*chronic alcoholism.*" The latter comprises a complex of symptoms in the sphere of the central nervous system and some other organs.

The noxiousness of the various alcoholic beverages is proportionate to the percentage of alcohol and the amount of impurities, such as the fusel oils, which they contain. Beer is, therefore, less injurious than wine, light wine less than heavy wine, and brandy and whiskey more injurious than wine. In cold regions, combined with much physical exertion and copious food, alcohol is comparatively well borne.

The manifestations of chronic alcoholism result from the deterioration of many organs. Alcohol irritates the upper part of the alimentary tract, causing chronic catarrh of the stomach—vomitus matutinus. It affects liver and kidneys, producing cirrhosis of these organs—chronic hepatitis and nephritis. The injurious influence of alcohol on the nervous system is shown by many nervous symptoms, and these mainly constitute the chronic alcoholism.

An early symptom of chronic alcoholism is the peculiar *depravity of character.* The drinker neglects his family, is unkind and rude to his wife, indifferent to his business affairs, derelict in the duties of his vocation,

He has no feeling of honor, no self-respect. He is not fastidious in the choice of his companions. An alcoholic of the best family and of high position will not be ashamed to tope in company with individuals of the scum of society. All these improprieties constitute the peculiar *alcoholic depravity of character*. The deeper the patient sinks, the more marked it becomes.

The habitual drinker is very irritable, sensitive, violent, and indifferent to his own life. In a fit of excitement he is apt to assault anybody crossing his way, and the subsequent annoyance at this impulsive act is sufficient reason for him to commit suicide.

The alcoholic gets up in the morning with a certain abhorrence of his existence. The thought of having to perform his daily work renders him morose and weary of life. This sour temper does not pass away before he has taken recourse to his habitual stimulant, a glass of wine or brandy.

It is difficult to establish the limit where chronic alcoholism begins. One who consumes a great deal of alcohol is not necessarily affected with this morbid condition. An individual with a strong constitution can stand a great deal of alcohol, another one with a weak constitution manifests morbid symptoms at a much smaller consumption of alcohol. The finest reagent to determine the beginning of chronic alcoholism is inability to work. An alcoholic who awakes in the morning feeling ill at ease, morose, unable to work, and has first to take some wine or brandy to get rid of this ill humor, is suffering from chronic alcoholism. A drinker who cannot dispense with alcohol without manifesting weakness, or, as the technical term is, without symptoms of abstinence, is sick with chronic alcoholism. A similar condition is met with in

chronic poisoning with morphine and nicotine. These patients also cannot miss their habitual stimulants without showing symptoms of weakness. The chief criterion for the presence of chronic alcoholism is, therefore, the appearance of certain symptoms of abstinence when the use of alcohol is interrupted.

An important symptom of chronic alcoholism is great reduction of the will power.

All psychoses due to alcohol poisoning presuppose chronic alcoholism, i. e., one who becomes mentally ill through the abuse of alcohol has been affected with chronic alcoholism for some time past. In all exactness, the latter is also a mental disease as shown by the great diminution of will power characteristic of the alcoholics. They clearly see that they are steering towards the abyss by continuing the abuse of alcohol, and yet they lack the necessary strength of will to abandon it. Whether a psychosis proper supervenes depends upon accidents and circumstances. The psychoses most common in alcoholics are delirium tremens, hallucinatory insanity, epileptiform insanity, primary insanity.

Delirium breaks out suddenly. When, for instance, a drinker is arrested and put into prison where he receives no alcohol, delirium tremens may set in over night. Or when a drinker, seized with an acute disease, is brought into the hospital where nobody even knows that he is addicted to alcohol, delirium tremens may follow quickly. The latter is a so-called delirium of abstinence, i. e., it is caused by withholding the alcohol from the habitual drinker. But there is also a delirium potatorum caused by exaggeration of the usual consumption of alcohol. At some occasion the drinker may go far beyond his ordinary limit, consuming at one time an excessive

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to demonstrate to him that he will ruin himself by continuing the abuse of alcohol, would, from a theoretical point of view, seem to be salutary. But practically all endeavors to reform the alcoholic by moral persuasion fail because of his great weakness of will power. When he is committed into the asylum, he recognizes after a comparatively short time that he has brought misfortune upon himself and his family, and is all contrite in the most desirable manner. By solemn promises he soon succeeds to gain the confidence and favor of his relatives. The latter take the patient away from the asylum, maintaining that in his excellent condition of health and with such sincere resolutions to renounce the alcohol, he can safely be trusted and restored to liberty. But he has hardly familiarized himself with the newly regained freedom when the old trouble commences again. Nay, it happens that the drinker beats his wife on the very day of his dismissal from the asylum. Now, how is this possible? Have all those solemn promises been false and hypocritical? No, the sudden change in the patient's conduct may be explained in another way. The promises and resolutions have indeed been true and sincere. But after having been removed from the wholesome restraint of the asylum, the patient, in the first joy at the regained liberty, begins to reason after this manner: "One glass of wine taken at your liberty will not harm you." When he has once tasted alcohol, his good intentions begin to waver, due to his weakness of will power. He drinks a second glass and a third one, and so on, until he becomes intoxicated. Now all the good resolutions are thrown overboard.

It follows from the above that it is necessary to detain the alcoholic for years in order to effect a perma-

nent cure. In some instances this is accomplished with impecunious drinkers who have been put into prison for some misdeed. But even in such cases it has been observed that drinkers after dismissal from the prison have again become addicted to alcohol.

Prognosis. The prognosis of alcoholic insanity is generally very bad, as may be seen from the preceding remarks. But with regard to every single psychosis it is comparatively favorable. Delirium passes off promptly, so does hallucinatory insanity, even epileptic attacks cease without leaving permanent mental enfeeblement.

Chapter XCVI.

DELIRIUM ACUTUM.

Delirium acutum is a mental disorder of unknown origin. It seems to be justified, however, to assume that intoxication of some sort or other forms the exciting cause.

The disease attacks persons in the prime of life and is characterized by a very abrupt onset. Cases of delirium acutum, therefore, are usually not observed in the insane asylum, but in private or in the general hospital.

Delirium acutum presents the following clinical picture. Without any forebodings a young or middle-aged person is suddenly seized with great excitement. He begins to act in a frantic manner; he tears his clothes, destroys everything within reach, and assaults everybody coming near him. We might suppose that the patient were suffering from an attack of mania. But a day or two later it becomes noticeable that his consciousness is

considerably impaired, that he hallucinates strongly, that his eyes lack the brilliant, fresh look of the maniac, and the expression of his countenance betrays a serious condition. He takes no food, and his strength diminishes rapidly, while in mania the vegetative functions proceed rather favorably. The bodily temperature of the patient is raised as high as 102° to 103°. At times he is quiet, apathetic, almost stuporous.

Delirium acutum is usually lethal. The second week of the disease is the most critical time. When the patient has survived it there is some hope of recovery.

The following symptom is peculiar to delirium—delirium acutum. The patient unexpectedly falls to the ground, and this evidently by intention (p. 186). Without trying to ward off the fall by outstretching his hands, he drops down in the most unfavorable manner, and then he wallows and tries to force his head through carpets or mattresses the floor may be covered with. All the while he is under the influence of vivid hallucinations.

The condition of the patient in delirium acutum frequently takes a sudden turn for the better. The consciousness becomes entirely clear, the fever abates, and the patient grows calm and takes nourishment willingly. The relatives begin to attach little value to the physician's assertion that notwithstanding the apparent improvement the greatest danger is imminent. And indeed, a day or two later the former grave symptoms reappear, and this second attack leads to the lethal end.

At the autopsy great hyperæmia of the brain is found similar to the cerebral hyperæmia after hanging. The view has, therefore, been advanced that delirium acutum is due to venous hyperæmia of the brain caused by some toxic agent. Acting upon this theory some have made

therapeutic use of ergotine and maintain to have had good results with this treatment. The latter fact can not be denied, but the conclusion drawn from it is doubtful. For there are conditions which resemble delirium acutum exactly and end in recovery without ergotine treatment. The question of the beneficial effect upon delirium acutum of ergotine would be decided by the following statistical proceeding. Of all the cases commencing like delirium acutum one should be treated expectatively, the next one with ergotine; then again the 3rd, 5th, 7th, etc., expectatively, and the 4th, 6th, 8th, etc., with ergotine. The comparison of the two series will show which treatment gives better results. In such an experiment the cases of apparent delirium acutum will be quite evenly distributed between the two modes of treatment. But if all cases are treated with ergotine, the objection may be raised that those terminating favorably have not been cases of delirium acutum, but merely resembled it.

Chapter XCVII.

TRAUMATIC INSANITY.

Traumatic insanity is traceable to an injury, especially of the skull. The coma immediately following the shock excluded, the mental disorders of traumatic insanity appear in three distinct types.

One type consists in violent hallucinations. The patient having recovered from the disturbance of consciousness subsequent to the trauma, begins to hallucinate strongly in several senses, and this although no bodily lesion of any importance can be established. This excitative state persists for weeks, so that serious symptoms

of exhaustion arise, rendering artificial feeding necessary. Nevertheless the prognosis is favorable if there are no signs of pareses and paralyses. After a few weeks convalescence commences and is soon followed by complete recovery.

Of longer duration is that form of traumatic insanity which presents the clinical picture of paranoia. Some time after the trauma disturbances of the emotional sphere begin to oppress the patient and become productive of delusions of grievance and furtherance (Ch. 75, p. 176). This type of traumatic insanity is also of favorable prognosis even in cases where the paranoia lasts for a year and longer.

A third form of mental disorder based on trauma manifests itself by great excitability of the central nervous system associated with intolerance of alcohol. The quantity of spirituous liquors which up to the time of the trauma the patient could consume without the slightest ill effect, exerts now an injurious influence on his nervous system. It puts him into a state of extraordinary excitement, almost of frenzy. The condition of the patient is such that he may be taken for an alcoholic in delirium tremens. This diagnosis would not be a matter of indifference to the patient. For the mental disorders based on chronic alcoholism are ultimately to be ascribed to bad habits and wrong actions, while traumatic insanity with intolerance of alcohol is not due to any fault of the patient's.

The degree of irritability of the central nervous system is commensurate with the exaggeration of the tendon reflexes. It is, therefore, possible to judge of the increased excitability of the patient by the condition of his reflexes.

THERAPY. Injuries productive of traumatic insanity usually cause a concussion of the brain in toto whereby its excitability becomes increased and its power of resistance diminished. For this reason surgical interference is, as a rule, of no avail. In some instances, however, it has a good effect. The skull is, therefore, to be examined for depressions or fractures, and the lesions found are to be treated according to surgical principles. If no injury of the skull can be established, the treatment is only symptomatic. The patient must be guarded against excitement and strong sense stimuli, and the use of alcohol and tobacco is to be strictly forbidden.

CHAPTER XCVIII.

INSANITY IN ORGANIC BRAIN DISEASES.

Mental disorders are frequently due to organic diseases of the brain.

Huntington's chorea is a psychosis consisting in a slowly progressing mental deterioration with pronounced dementia as the final stage. Besides choreic movements of limbs and body, the patients present various psychopathic symptoms, such as impairment of memory and judgment, apathy, irritability, groundless outbursts of anger. At times depression or mania is present. The disease runs a course of 10 to 30 years. In the terminal dementia the patients are physically so weak that they have to be kept in bed. The autopsy reveals considerable pathological changes in the meninges and cerebral cortex.

MULTIPLE SCLEROSIS. Multiple sclerosis is usually associated with psychopathic symptoms. The affective

state is that of depression in early stages of the disease. Later slight euphoria prevails. Occasionally uncontrollable emotional outbursts occur. The patients laugh or weep without provocation. Apathy is often present. Memory and judgment are defective. The insight into the morbidity of the mental condition (p. 129) is preserved for a long time.

Apoplexy. Cerebral hemorrhages frequently lead to an impairment of the mental faculties. In many instances the patients become apathetic. Their lack of emotional control is seen in outbursts of laughing or weeping without apparent cause. The power of memory and judgment is diminished. The insight into the diseased mental condition is wanting in some cases, but well retained in others.

Brain Tumor. Mental defects are met with in tumors of the brain, especially in large ones and those of the frontal lobes. The patients become indifferent, forgetful, unable to endure any mental exertion. Memory is weakened. Attacks of somnolence occur frequently. Sometimes there is childish cheerfulness with inclination to joking.

Cerebral Syphilis. The mental disorders due to syphilis of the brain are divided into two types, simple syphilitic dementia and syphilitic pseudoparesis. The differentiation of these two types, however, is sometimes impossible.

In simple syphilitic dementia there is an impairment of memory and judgment. Apoplectiform and epileptiform attacks are frequent. The affective state is often exalted. The patients are subject to emotional outbursts and show marked intolerance of alcohol. The insight into the disease is wanting.

Syphilitic pseudoparesis usually begins with a state of depression. The patients become indifferent and forgetful. At times they are very irritable and violent. Hallucinations are frequent, especially in the sense of hearing. Delusions of persecution are present, but they are unstable. Later there is exaltation associated with delusions of grandeur. The final stage is marked by a more or less pronounced dementia, some patients being capable of useful occupation, others unfit for any work. Some physical symptoms contribute to render syphilitic insanity still more similar to paretic insanity. The pupillary reaction is somewhat impaired, and the pupils may be unequal in size. Difference of innervation of symmetrical parts and tremor in the muscles of the face, tongue, and extremities, are noticeable.

It is very difficult to differentiate syphilitic insanity from paretic insanity. In the former the memory is not impaired to such an extent as in the latter. The characteristic defective articulation of general paresis is wanting in syphilitic insanity.

Antiluetic treatment is of little avail in syphilitic insanity, yet it may be tried.

Chapter XCIX.

SENILE INSANITY.

In senility the vigor of mind shows a gradual progressive decline. Through the consuming effect of time the old memory images have either faded away or have become so faint that they can hardly be reproduced. The present sensations fail to leave impressions, do not

"cling," in the deteriorated cerebral elements. The associative paths are worn out by age, and association is hereby rendered difficult. The power of reasoning, depending upon memory and association, is therefore impaired. This mental enfeeblement of old age, called dotage, is to be considered physiological, since it is founded on the natural deterioration of the brain through senescence. There is, however, in advanced age an impairment of the mental faculties which is due to pathological factors and may therefore be designated as *senile insanity.*

Senile insanity is founded on an exaggeration of the brain's senescence in the general senile alteration of all organs. It appears under the clinical pictures of melancholia and mania followed by dementia. Some patients show all these three forms of mental disorder, one after the other, in other patients the melancholia or the mania is missing. The succession of the clinical pictures of senile insanity is, therefore, as follows: (1) Melancholia—Dementia; (2) Mania—Dementia; (3) Melancholia—Mania—Dementia. In some instances senile insanity has the periodic character, melancholic or maniacal excitement alternating with intervals of well-being.

The melancholia of senile insanity has some characteristic traits. The patients are troubled with groundless cares of sustenance. Although possessed of wealth, they complain about dire poverty and assert that they have to deny themselves everything in order to save for their children. We would be inclined to regard such patients as old misers. But when we see that their sleep is disturbed, their nutritive state greatly reduced, and their strength gradually waning, we will recognize that it is not niggardliness which causes the patients' worries about

their own subsistence and that of their dear ones. These cares about sustenance may drive the patients to suicide. Many a case of suicide at an advanced age is to be attributed to senile melancholia.

Senile mania also shows some peculiarities. The senile maniac feels young again. He boasts that in spite of his 70 years he can accomplish as much as a man of 30. He dresses like a young man, after the newest fashion, carries a walking cane in his hand and a cigar in his mouth, and in this attire he flaunts about the streets. Confidentially he betrays to a companion that his virile potency is excellent. This last point must be borne in mind for the reason that senile maniacs frequently come into conflict with the Penal Code in consequence of sexual overexcitement. Driven by their morbid sexual desires they importune not only other people's children, but even render themselves guilty of illicit relations with their own grandchildren. People sometimes speak of an old libertine who had to go to the penitentiary for rape. But the physician cognizant of the fact that sexual excitement belongs to the symptoms of senile mania, will, in a given case, investigate the matter somewhat closer. He will try to find out whether the defendant has manifested other indications of mental disease, and having established this, will plead for his acquittal on the ground of insanity.

A serious feature of senile insanity is the unexpected occurrence of fatal apoplexies. This will not appear extraordinary when we consider that the senescence of the brain, which is the chief etiological factor of senile insanity, is founded on atheromatosis of the cerebral blood vessels, and this pathologic-anatomic alteration is also the cause of cerebral hemorrhages. The relatives of the patient must be warned that fatal termination through

apoplexy occurs unexpectedly in senile insanity. If their attention has not been called in time to this eventuality, they are distrustful when a misfortune happens suddenly, and suspect that their patient has been ill treated or neglected, and it may become necessary to prove by autopsy the cause of his precipitate death.

Prognosis. During the melancholic or maniacal excitement death may result from exhaustion. The refusal of food in senile melancholia is much more fraught with danger than in insanity of young patients. Sudden apoplexies may speedily end the patients' lives. When however the acute stages of senile insanity have passed off without fatal termination, the patients enter into the more permanent stage of dementia. Their condition is then less changeable, their conduct less dangerous than formerly, and they are, therefore, fit for private care.

ERRATA

Page 19, line 9 from below, read: 14-16 instead of 14-15.
Page 20, line 4 from above, read: *it is* instead of 'is.'
Page 48, line 10 from below, read: comma (,) after 'on.'
Page 74, line 6 from below, read: period (.) instead of colon (:).
Page 74, lines 3 and 5 from below, read: *House* instead of house.
Page 80, first line, read: comma (,) after 'impulse.'
Page 92, line 6 from below, read: period (.) instead of colon (:).
Page 106, last line, read: *numbers* instead of number.
Page 155, line 16 from above, read: comma (,) after 'day.'
Page 167, line 14 from above, read: comma (,) after 'tractability.'
Page 177, line 14 from below, read: semicolon (;) instead of colon (:).
Page 218, line 12 from below, read: comma (,) after 'system.'
Page 254, line 8 from below, read: *into* instead of in.
Page 264, line 11 from above, read: comma (,) after 'it.'
Page 278, line 9 from below, read: 119 after '115.'

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